

RULE 4570 CONFINED ANIMAL FACILITIES (Adopted June 15, 2006; Readopted June 18, 2009; Amended October 21, 2010)

1.0 Purpose

The purpose of this rule is to limit emissions of volatile organic compounds (VOC) from Confined Animal Facilities (CAF).

2.0 Applicability

The provisions of this rule shall apply to any Confined Animal Facility.

3.0 Definitions

3.1 Aerated Static Pile (ASP): a system designed, constructed, maintained, and operated for decomposing organic material in which the material is placed on top of perforated plates or pipes that are connected to blowers that either push or pull air through the piles.

3.2 Aerobic Digester: a basin or tank designed, constructed, maintained, and operated for the aerobic treatment of liquid or solid manure that is approved by the APCO, ARB, and EPA.

3.3 Aerobic Lagoon: a lagoon designed, constructed, maintained, and operated in accordance with the applicable standards for aerobic lagoons in the Natural Resource Conservation Service (NRCS) California Field Office Technical Guide Conservation Practice Standard Code 359 or other applicable standards approved by the APCO, ARB, and EPA.

3.4 Alternative Mitigation Measure: a mitigation measure that is determined by the APCO, ARB, and EPA to achieve reductions that are equal to or exceed the reductions that would be achieved by other mitigation measures listed in this rule that owners/operators could choose to comply with rule requirements.

3.5 Anaerobic Digester: a basin or tank designed, constructed, maintained, and operated for the anaerobic treatment of liquid or solid manure in accordance with the applicable standards for anaerobic digesters in the Natural Resource Conservation Service (NRCS) California Field Office Technical Guide Conservation Practice Standard Code 365 or 366 or other applicable standards approved by the APCO, ARB, and EPA.

3.6 Anaerobic Treatment: the decomposition of organic matter by microbes in the absence of oxygen. During this process four main reactions occur. In the first reaction, complex organic materials (e.g. carbohydrates, proteins, and fats) are hydrolyzed to form soluble organic molecules (e.g. sugars, amino acids, and

fatty acids). In the second reaction, soluble organic molecules ferment to form acetic acid, formic acid, and volatile fatty acids. In the third reaction, volatile fatty acids undergo acetogenesis to form acetic acid and formic acid. In the fourth reaction, acetic acid and formic acid undergo methanogenesis to form methane and carbon dioxide.

- 3.7 Anaerobic Treatment Lagoon: a lagoon designed, constructed, maintained, and operated in accordance with the standards for anaerobic lagoons in the Natural Resource Conservation Service (NRCS) California Field Office Technical Guide Conservation Practice Standard Code 359 or other applicable standards approved by the APCO, ARB, and EPA.
- 3.8 Animal Manure: any animal excretions and mixtures containing animal excretions, except for material meeting the definition of separated solids.
- 3.9 APCO: as defined in Rule 1020 (Definitions).
- 3.10 ARB: as defined in Rule 1020 (Definitions).
- 3.11 Beef Feedlot: a CAF that is primarily concerned with raising cattle for the production of meat for commercial purposes.
- 3.12 Biofilter: a pollution control technique using living material to capture and biologically degrade process pollutants. A biofilter is usually a bed of organic material (medium), typically a mixture of compost and wood chips or shreds. As air passes through the biofilter, the microbes on the organic material convert contaminants in the air stream to carbon dioxide and water.
- 3.13 CDFA: California Department of Food and Agriculture or any person designated to act on its behalf.
- 3.14 Cereal Grains: grasses (members of the monocot families Poaceae or Gramineae) cultivated for the edible components of their fruit. These grains include corn, rice, wheat, barley, sorghum, millet, oats, rye, triticale, and fonio. For the purposes of this rule, buckwheat and quinoa will also be considered cereal grains.
- 3.15 Certified Nutritionist: a nutritionist certified by the American Registry of Professional Animal Scientists or who is approved by the APCO, ARB, and EPA.
- 3.16 Class One Mitigation Measures: a mitigation measure or combination of measures for the specific source category that, at the time of rule adoption, are considered to be the Best Available Retrofit Control Technology (BARCT) for VOC, as defined in the California Health and Safety Code Section 40406.

- 3.17 Class Two Mitigation Measures: a mitigation measure or combination of measures for the specific source category that achieve VOC reductions equal to or greater than those achieved by Class One Mitigation Measures, but are considered beyond the Best Available Retrofit Control Technology (BARCT) standards for existing facilities after taking into account environmental, energy, economic, legal, social, and technological factors. These measures are considered to be between BARCT (the standard for existing facilities) and Best Available Control Technology (BACT), equivalent to BACT, or theoretically feasible measures that may be beyond BACT.
- 3.18 Composting: the controlled biological decomposition of organic material, under aerobic (with air) or anaerobic (without air) conditions, to form a humus-like material.
- 3.19 Confined Animal Facility (CAF): a facility where animals are corralled, penned, or otherwise caused to remain in restricted areas for commercial purposes and primarily fed by a means other than grazing for at least forty-five (45) days in any twelve (12) month period.
- 3.20 Contiguous or Adjacent Property: as defined in Rule 2201 (New and Modified Stationary Source Review).
- 3.21 Corral: an area where animals are confined without separate stalls in which the animals may rest. (also referred to as dry lot, pen, exercise pen, loafing barn, saudi barn or open lot).
- 3.22 Dairy: a CAF that is primarily concerned with the production of milk, butter, or cheese for commercial purposes.
- 3.23 Day: a twenty-four hour period beginning at 12:00 a.m. and ending at midnight.
- 3.24 District: as defined in Rule 1020 (Definitions).
- 3.25 Dry Manure/Dry Separated Solids: manure or separated solids with less than 50% moisture, by weight, not including any materials used for on-site composting operations.
- 3.26 Dry Rolled Corn: any corn that is crushed between rollers without previous treatment with steam or another softening process.
- 3.27 Emission Mitigation Plan: a document that lists and describes all VOC mitigation measures to be implemented at the CAF.

- 3.28 EPA: the United States Environmental Protection Agency or any person designated to act on its behalf.
- 3.29 Facility: a source or group of air pollution sources located on one or more properties that are contiguous, adjacent, or separated only by a public right-of-way and are under common ownership, common control, or operated by entities that are under common ownership or control. A facility includes, but is not limited to, all barns, buildings, coops, corrals, feed storage areas, installations, milking parlors, structures, and systems for the collection, distribution, storage, and treatment of manure on the properties.
- 3.30 Feed Bunk: the area where feed is placed for the animals to eat the feed.
- 3.31 Feedlanes: the area in which the animal stands while eating feed. This area may also be referred to as a flush or scrape concrete lane.
- 3.32 Freestall Barn: a structure for housing animals in which the animals are contained in pens under a roof and have free access to feed bunks, waterers, and stalls for resting.
- 3.33 High Moisture Corn: corn which, at harvest, has a kernel moisture of greater than 25%.
- 3.34 In-corral Mounds: mounds of manure and/or soil which are constructed, designed, maintained, and operated by the owner/operator to allow animals to have a dry area to lay and rest during the wet season.
- 3.35 Lagoon: a basin constructed, maintained, and operated to store and treat manure. This does not include basins primarily used to collect runoff and stormwater.
- 3.36 Land Incorporate: use of a method, such as tilling, injecting, or plowing, that covers manure with soil.

3.37 Large CAF: a CAF that maintains, on any one day, at least the following number of animals:

<b>Table 1 - Large CAF Definition by Livestock Category</b>	
<b>Livestock Category</b>	<b>Large CAF Definition</b>
Dairy	1,000 milking cows
Beef Feedlots	3,500 beef cattle
Other Cattle Facility	7,500 calves, heifers, or other cattle
Poultry Facilities	
Chicken	650,000 head
Duck	650,000 head
Turkey	100,000 head
Swine Facility	3,000 head
Horses Facility	2,500 head
Sheep and Goat Facilities	15,000 head of sheep, goats, or any combination of the two
Any livestock facility not listed above	30,000 head

3.38 Licensed Veterinarian: a veterinarian licensed by the State of California or a veterinarian that is approved by the APCO, ARB, and EPA.

3.39 Livestock: any domesticated animal kept or raised for the production of eggs, milk, wool, or meat.

3.40 Mature Cow: a cow that has had at least one calf.

3.41 Medium Dairy CAF: a dairy CAF that maintains, on any one day, at least 500 milking cows, but is not a large dairy CAF.

3.42 Milking Cow: a cow that is currently producing milk (lactating).

3.43 Mitigation Measure: an activity, practice, or technology that reduces VOC air pollutants emitted by or associated with a CAF.

3.44 NRC: the National Research Council of the United States of America.

3.45 NRCS: the Natural Resource Conservation Service operated under the United States Department of Agriculture.

3.46 Nursery Pig: For the purposes of this rule, any pig that has been weaned and is less than forty-five (45) pounds in weight.

3.47 Other Cattle Facility: a CAF housing cattle that does not meet the definition of a Beef Feedlot or Dairy.

- 3.48 Owner/Operator: any person who owns, leases, supervises, or operates a Confined Animal Facility or equipment on such a facility.
- 3.49 Oxygen Barrier Film: a plastic film with an oxygen transfer rate not exceeding  $200 \text{ cm}^3/(\text{m}^2\text{-24 hrs})$  as measured by ASTM D3985 or a plastic film with an equivalent oxygen transfer rate as determined by methods approved by the APCO and EPA.
- 3.50 Phase Feeding: the feeding of multiple diets during the nursery stage and during the grower/finisher phase.
- 3.51 Phototropic Lagoon: a lagoon where at least 10% of the bacteria in the lagoon are photosynthetic bacterium; the bacteriochlorophyll a concentration is above  $1081 \text{ }\mu\text{g/L}$ ; or that is designed, constructed, maintained, and operated according to other standards approved by the APCO, ARB, and EPA.
- 3.52 Poultry: any domesticated birds kept or raised for eggs or meat.
- 3.53 Poultry Litter: poultry excretions and bedding, including, but not limited to, dried solids, manure, urine and bedding from chickens, turkeys, geese, or ducks.
- 3.54 Poultry Molt: the periodic replacement of feathers by shedding old feathers while producing new ones.
- 3.55 Processed Cereal Grain or Processed Corn: cereal grains or corn that have undergone one or more processes to changes the underlying chemical structure compared to the cereal grain or corn as harvested.
- 3.56 Rain Event: precipitation greater than 0.1 inch in 24 hours at the facility.
- 3.57 Separated Solids: solids removed from manure by a solid separator system, not including any materials used for onsite composting operations.
- 3.58 Shade Structure: a structure designed, constructed, installed, maintained, and operated to provide shade for livestock.
- 3.59 Solid Separator System: a system for separating solid manure from the liquid manure stream that is designed, installed, constructed, operated, and maintained in accordance with the applicable standards in California NRCS Field Office Technical Guide Conservation Practice Standard Code 632 or other applicable standards approved by the APCO, ARB, and EPA. Solid separator systems may include, but are not limited to, flat belt separators, roller press separators,

vibrating screen separators, stationary inclined screen separators, weeping walls, and settling basins.

- 3.60 Split-Sex Feeding Program: a feeding program that separates male and female swine after they are moved from the nursery and feed different diets to more closely match the nutrient requirements of the different sexes.
- 3.61 Steam-Flaked Cereal Grains: cereal grain that is processed by cooking the grain with steam under pressure and then flaking the resulting material through heated rollers.
- 3.62 Steam-Flaked Corn: corn that is processed by cooking the corn with steam under pressure and then flaking the resulting material through heated rollers.
- 3.63 Storage Pond: a basin constructed, maintained, and operated, to store manure, after it has been treated or processed in a lagoon.
- 3.64 Swine: for the purposes of this rule, and determination of the threshold in Table 2, any weaned pig of at least forty-five (45) pounds in weight, such as finishing pigs and breeding stock.
- 3.65 USDA: the United States Department of Agriculture or any person designated to act on its behalf.
- 3.66 VOC Control Device: a device, into which captured air is vented, that reduces the VOC content in the air prior to the air being released into the atmosphere.
- 3.67 Volatile Organic Compounds (VOC): as defined in Rule 1020 (Definitions).
- 3.68 Weatherproof Covering/Storage Structure: A covering, such as a building or tarp, constructed, installed, maintained, and operated such that the material inside or underneath the covering is not moved or moistened by weather conditions outside of the covering including, but not limited, to wind and rain. The covering shall be maintained according to manufacturer recommendations and adhere to the applicable standards in NRCS California Field Office Technical Guide (FOTG) Conservation Practice Standard Codes 313 or other applicable standards approved by the ARB, APCO, and EPA.
- 3.69 Year: any consecutive 365-day period.

#### 4.0 Exemptions

Except for the recordkeeping requirements of Section 7, the provisions of this rule shall not apply to a CAF, which remains at all times below all of the regulatory thresholds in Table 2:

<b>Table 2 - CAF Thresholds for Regulation</b>		
<b>Livestock Category</b>	<b>Regulatory Threshold Through October 21, 2010</b>	<b>Regulatory Threshold On and after October 22, 2010</b>
Dairy	1,000 milking cows	500 milking cows
Beef Feedlots	3,500 beef cattle	3,500 beef cattle
Other Cattle Facility	7,500 calves, heifers, or other cattle	7,500 calves, heifers, or other cattle
Poultry Facilities		
Chicken	650,000 head	400,000 head
Duck	650,000 head	400,000 head
Turkey	100,000 head	100,000 head
Swine Facility	3,000 head	3,000 head
Horses Facility	3,000 head	3,000 head
Sheep and Goat Facilities	15,000 head of sheep, goats, or any combination of the two	15,000 head of sheep, goats, or any combination of the two
Any livestock facility not listed above	30,000 head	30,000 head

#### 5.0 Requirements

##### 5.1 Permit Requirements:

5.1.1 Owner/operators shall obtain a Permit-to-Operate for the facility.

5.1.2 A thirty-day (30) public noticing and commenting period shall be required for all large CAFs receiving their initial Permit-to-Operate or Authority-to-Construct.

##### 5.1.3 Facility Emission Mitigation Plan

The owner/operator shall submit a facility emission mitigation plan as part of the Permit-to-Operate application or Authority-to-Construct application. The mitigation plan shall contain the following information:

5.1.3.1 The name, business address, and phone number of the owners/operators responsible for the preparation and the implementation of the mitigation measures listed in the mitigation plan.

5.1.3.2 The signature of the owners/operators attesting to the accuracy of the information provided and adherence to implementing the activities specified in the mitigation plan at all times and the date that the application was signed.

5.1.3.3 A list of all mitigation measures chosen to comply with Rule 4570 requirements.

5.1.3.3.1 The mitigation measures shall be chosen from the applicable portions of Sections 5.5 or 5.6.

5.1.3.3.2 The owner/operator of CAFs that are not a dairy, beef feedlot, other cattle, swine, or poultry operations shall submit a mitigation plan demonstrating facility-wide reductions of at least 30% or submit a mitigation plan that adheres to all of the requirements of Sections 5.5 or 5.6, whichever section best fits the facility.

5.1.3.3.3 Owners/operators may substitute a mitigation measure from one section in the applicable table (Tables 3.1 through 4.6) for a mitigation measure in another section of the applicable table, provided it is demonstrated that the substitution would result in equal or greater emission reductions. Alternative mitigation measures must be approved prior to initial use.

5.1.3.3.4 In lieu of compliance with Section 5.1.3.3.1, Section 5.1.3.3.2, or Section 5.1.3.3.3, an owner/operator may demonstrate that facility-wide reductions are equal to that which the compliance with those sections would have achieved.

#### 5.1.4 Facility Emission Inventory

The Permit-to-Operate application or Authority-to-Construct application shall include the following information, which is in addition to the facility emission mitigation plan:

5.1.4.1 The maximum number of animals at the facility in each production stage (facility capacity).

5.1.4.2 Any other information necessary for the District to prepare an emission inventory of all regulated air pollutants emitted from the facility, as determined by the APCO.

5.1.5 The approved mitigation measures from the facility's mitigation plan will be listed on the Permit-to-Operate or Authority-to-Construct as permit conditions.

5.1.6 The District shall act upon the Authority to Construct application or Permit-to-Operate application within six (6) months of receiving a complete application.

## 5.2 Permit Renewal/Change

5.2.1 Renewal - The District shall review each plan/permit at least once every three (3) years and update to reflect changes in the operation and feasibility of mitigation measures.

5.2.2 Change to Permit - If a temporary suspension of one or more mitigation measure provided for in Section 5.4 continues beyond the allowed suspension period:

5.2.2.1 The owners/operators shall, within that allowed period, submit a new emission mitigation plan designating a mitigation measure to be implemented in lieu of the mitigation measure that was suspended; and

5.2.2.2 The owner/operator shall obtain approval of the amended mitigation plan from the APCO and EPA by submittal of an Authority-to-Construct application.

## 5.3 Mitigation Measure Implementation

Owners/operators of any CAF shall implement all VOC emission mitigation measures, as contained in the permit application, on and after 365 days from the date of issuance of either the Authority-to-Construct or the Permit-to-Operate, whichever is sooner.

## 5.4 Temporary Suspension of Mitigation Measures

An owner/operator may temporarily suspend use of mitigation measure(s) provided all of the following requirements are met:

5.4.1 It is determined by a licensed veterinarian, certified nutritionist, CDFA, or USDA that any mitigation measure being suspended is detrimental to animal health or necessary for the animal to molt, and a signed written copy of this determination shall be retained on-site and made available for inspection upon request,

- 5.4.2 The owner/operator notifies the District, within forty-eight (48) hours of the determination that the mitigation measure is being temporarily suspended; the specific health condition requiring the mitigation measure to be suspended; and the duration that the measure must be suspended for animal health reasons,
- 5.4.3 The emission mitigation measure is not suspended for longer than recommended by the licensed veterinarian or certified nutritionist for animal health reasons,
- 5.4.4 If such a situation exists, or is expected to exist for longer than thirty (30) days, the owners/operators shall, within that thirty (30) day period, submit a new emission mitigation plan designating a mitigation measure to be implemented in lieu of the mitigation measure that was suspended, and
- 5.4.5 The APCO, ARB, and EPA approve the temporary suspension of the mitigation measure for the time period requested by the owner/operator and a signed written copy of this determination shall be retained on-site.

5.5 Phase I Mitigation Measures: Owners/operators of large CAFs shall comply with the following Phase I Mitigation Measures in Section 5.5 until compliance with all applicable Phase II Mitigation Measures in Section 5.6 is demonstrated in accordance with the compliance schedule in Section 8.0.

5.5.1 Dairy CAF: Owners/operators of a large Dairy CAF shall comply with the Phase I requirements in Table 3.1:-

<b>Table 3.1 – Large Dairy CAF Phase I Mitigation Measure Requirements</b>	
A. Owners/operators shall incorporate at least four (4) of the following feed mitigation measures:	
Class One Mitigation Measures	
1.	a. Feed according to National Research Council (NRC) guidelines.
2.	a. Feed animals high moisture corn or steam-flaked corn and not feed animals dry rolled corn.
3.	a. At least once every fourteen (14) days remove feed from the area where animals stand to eat feed.
4.	a. At least once every fourteen (14) days remove spilled feed from the area where equipment travels to place feed in the feed bunk.
5.	a. Remove uneaten wet feed from feed bunks within twenty-four (24) hours of a rain event.
6.	a. Feed or dispose of rations within forty-eight (48) hours of grinding and mixing rations.
7.	a. Store grain in a weatherproof storage structure from October through May.
8.	a. Implement an alternative mitigation measure(s), not listed above.
B. Owners/operators shall incorporate at least one (1) of the following feed mitigation measures:	
Class One Mitigation Measures	
1.	a. Cover the horizontal surface of silage piles, except for the area where feed is being removed from the pile.
2.	a. Collect leachate from the silage piles and send it to a waste treatment system such as a lagoon at least once every twenty-four (24) hours.
3.	a. Implement an alternative mitigation measure(s), not listed above.
Class Two Mitigation Measures	
4.	a. Enclose silage in a bag and vent to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%, or b. Enclose silage in a weatherproof structure and vent to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%, or c. Eliminate silage from animal diet.
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<b>Table 3.1 – Large Dairy CAF Phase I Mitigation Measure Requirements (continued)</b>	
C. Owners/operators shall incorporate at least one (1) of the following mitigation measures in each milk parlor:	
Class One Mitigation Measures	
1.	a. Flush or hose milk parlor immediately prior to, immediately after, or during each milking.
2.	a. Implement an alternative mitigation measure(s), not listed above.
Class Two Mitigation Measures	
3.	a. Enclose and vent the milk parlor to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80% when animals are in the parlor.
D. Owners/operators housing animals in freestalls shall incorporate at least two (2) of the following mitigation measures in each freestall barn:	
Class One Mitigation Measures	
1.	a. Vacuum or scrape freestall flush lanes immediately prior to, immediately after, or during each milking.
2.	a. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) days.
3.	a. Use non-manure-based bedding and non-separated solids based bedding for at least 90% of the bedding material, by weight, for freestalls (e.g. rubber mats, almond hulls, sand, or waterbeds).
4.	a. Remove manure that is not dry from individual cow freestall beds at least once every fourteen (14) days.
5.	a. Rake, harrow, scrape, or grade bedding in freestalls at least once every fourteen (14) days.
6.	a. Use a dry manure handling system, such as scraping, instead of a liquid manure handling system, such as a flush system.
7.	a. Have no animals in exercise pens, corrals, or drylots at any time.
8.	a. Flush freestalls more frequently than the milking schedule.
9.	a. Implement an alternative mitigation measure(s), not listed above.
Class Two Mitigation Measures	
10.	a. Vacuum manure instead of flushing or scraping and apply manure directly to land either through injection or incorporation within seventy-two hours of removal from animal housing or vacuum truck.
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<b>Table 3.1 – Large Dairy CAF Phase I Mitigation Measures Requirements (continued)</b>	
E. Owners/operators housing animals in corrals shall incorporate at least six (6) of the following mitigation measures in each corral where animals have been housed in the last thirty (30) days:	
<b>Class One Mitigation Measures</b>	
1.	a. Clean manure from corrals at least four (4) times per year with at least sixty (60) days between cleaning, or b. Clean corrals at least once between April and July and at least once between October and December, or c. Clean concreted areas such that the depth of manure does not exceed twelve (12) inches at any point or time, except for in-corral mounding.
2.	a. Manage corrals such that the manure depth in the corral does not exceed twelve (12) inches at any time or point, except for in-corral mounding.
3.	a. Knockdown fence line manure build-up prior to it exceeding a height of twelve (12) inches at any time or point.
4.	a. Scrape or flush feed aprons in corrals at least once every seven (7) days.
5.	a. Slope the surface of the pens at least 3% where the available space for each animal is 400 square feet or less. Slope the surface of the pens at least 1.5% where the available space for each animal is more than 400 square feet per animal.
6.	a. Maintain corrals to ensure drainage and prevent water from standing more than forty-eight (48) hours after a storm, or b. Maintain corrals and drylots so that there are not indentions in the surface where puddles may form and remain for more than forty-eight (48) hours.
7.	a. Install floats on the troughs or use another method approved by the APCO, ARB, and EPA to ensure that the water in the troughs does not intentionally or unintentionally overflow or spill onto an earthen ground.
8.	a. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) days.
9.	a. Harrow, rake, or scrape pens sufficiently to maintain a dry surface.
10.	a. Install no shade structures in the corrals, or b. Install shade structures such that they are constructed with a light permeable roofing material, or c. Install all shade structures uphill of any slope in the corral.
11.	a. Implement an alternative mitigation measure(s), not listed above.
<b>Class Two Mitigation Measures</b>	
12.	a. Use lime or a similar absorbent material in the pens according to the manufacturer's recommendations to minimize moisture in the pens, or b. Apply thymol to corral soil in accordance with the manufacturer's recommendation.
13.	a. House animals in an enclosure vented to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%.
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<b>Table 3.1 – Large Dairy CAF Phase I Mitigation Measures Requirements (continued)</b>	
F. Owners/operators that handle or store solid manure or separated solids outside the animal housing shall incorporate at least two (2) of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Cover dry manure piles outside the pens with a weatherproof covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.
2.	a. Cover dry separated solids outside the pens with a weatherproof covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.
3.	a. Remove manure from the facility within seventy-two (72) hours of removal from the pens or corrals.
4.	a. Remove separated solids from the facility within seventy-two (72) hours of separation with a solid separation system, or b. Store no separated solids outside of anaerobic digesters or aerobic digesters.
5.	a. Implement an alternative mitigation measure(s), not listed above.
Class Two Mitigation Measures	
6.	a. Compost manure removed from pens with an aerated static pile vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
7.	a. Store all removed manure in an enclosure vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
8.	a. Send at least 51% of the manure removed from animal housing to a digester, with a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
G. Owners/operators that handle manure in a liquid form shall incorporate at least one (1) of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Manage the facility such that there are no lagoons, as defined in Section 3.35, at the facility.
2.	a. Use phototropic lagoon, or b. Use an anaerobic treatment lagoon that is not mechanically aerated.
3.	a. Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon.
4.	a. Maintain lagoon pH between 6.5 and 7.5.
5.	a. Implement an alternative mitigation measure(s), not listed above.

<b>Table 3.1 – Large Dairy CAF Phase I Mitigation Measures Requirements (continued)</b>	
Class Two Mitigation Measures	
6.	a. Use an aerobic lagoon, or b. Use an anaerobic treatment lagoon that is mechanically aerated.
7.	a. Maintain organic loading in the lagoon such that the total solids is less than 3.5 mg (dry weight)/mL, or total volatile solids is less than 3.5 mg/mL.
8.	a. Use additional non-standard equipment or chemicals on the solid separator system, such as roller or screw presses or chemical coagulants and flocculants, that increase the percent of solid separation achieved by the separator and that is approved by the APCO, ARB, and EPA.
9.	a. Cover the lagoon or storage pond and vent to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
H. Owners/operators who land apply dry or liquid manure to crop land on the facility shall incorporate at least two (2) of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Land incorporate all solid manure within seventy-two (72) hours of removal from animal housing.
2.	a. Only apply solid or liquid manure that has been treated with an anaerobic or aerobic lagoon or digester system.
3.	a. Allow liquid manure to stand in the fields no more than twenty-four (24) hours after irrigation, or b. Apply no liquid manure.
4.	a. Apply no solid manure with a moisture content of more than 50%, or b. Apply no solid manure.
5.	a. Implement an alternative mitigation measure(s), not listed above.

5.5.2 Beef Feedlots: Owners/operators of a large CAF that is a Beef Feedlot shall comply with the Phase I requirements in Table 3.2:

<b>Table 3.2 – Beef Feedlot Phase I Mitigation Measure Requirements</b>	
A. Owners/operators shall incorporate at least five (5) of the following feed mitigation measures:	
Class One Mitigation Measures	
1.	a. Feed according to National Research Council (NRC) guidelines.
2.	a. Feed animals with high moisture corn or steam-flaked corn and not feed animals dry rolled corn.
3.	a. At least once every fourteen (14) days remove feed from the area where animals stand to eat.
4.	a. At least once every fourteen (14) days remove spilled feed from the area where equipment travels to place feed in the feed bunk.
5.	a. Remove uneaten wet feed from feed bunks within twenty-four (24) hours of a rain event.
6.	a. Feed or dispose of rations within forty-eight (48) hour of grinding and mixing rations.
7.	a. Store grain in a weatherproof storage structure from October through May.
8.	a. Implement an alternative mitigation measure(s), not listed above.
B. Owners/operators shall incorporate at least one (1) of the following feed mitigation measures:	
1.	a. Cover the horizontal surface of silage piles, except for the area where feed is being removed from the pile.
2.	a. Collect leachate from the silage piles and send it to a waste treatment system, such as a lagoon, at least once every twenty-four (24) hours.
3.	a. Implement an alternative mitigation measure(s) not listed above.
Class Two Mitigation Measures	
4.	a. Enclose silage in a bag and vent to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%, or b. Enclose silage in a weatherproof structure and vent to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%, or c. Eliminate silage from animal diet.
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<b>Table 3.2 – Beef Feedlot Phase I Mitigation Measure Requirements (continued)</b>	
C. Owners/operators shall incorporate at least seven (7) of the following mitigation measures in each of the animal housing structures (e.g. each corral, pen, etc.):	
Class One Mitigation Measures	
1.	a. Clean manure from pens at least once between April and July and at least once between October and December of each year.
2.	a. Manage pens such that the manure depth in the pen does not exceed eighteen (18) inches at any time or point, except for in-corral mounds.
3.	a. Knockdown fence line manure build-up prior to it exceeding a height of twelve (12) inches at any time or point.
4.	a. Slope the surface of the pens at least 3% where the available space for each animal is 400 square feet or less. Slope the surface of the pens at least 1.5% where the available space for each animal is more than 400 square feet per animal.
5.	a. Maintain pens to ensure drainage and prevent water from standing more than forty-eight (48) hours after a storm, or b. Prior to placing cattle in pens, scrape or smooth the pen floors such that there are not indentions where puddles may form and remain for more than forty-eight (48) hours.
6.	a. Install floats on the troughs or use another method approved by the APCO, ARB, and EPA to ensure that the water in the troughs does not intentionally or unintentionally overflow or spill onto an earthen ground.
7.	a. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) days.
8.	a. Harrow, rake, or scrape pens sufficiently to maintain a dry surface, unless the corrals have not held animals in the last thirty (30) days.
9.	a. Clean the area where the animals stand to consume feed such that the depth of manure in this area does not exceed twelve (12) inches at any time or point.
10.	a. Use a dry manure handling system, such as scraping, instead of a liquid manure handling system, such as a flush system.
11.	a. Install no shade structures in the corrals, or b. Install shade structures such that they are constructed with a light permeable roofing material, or c. Install shade structures such that situated so that they are uphill of any slope in the corral.
12.	a. Implement an alternative mitigation measure(s), not listed above.
Class Two Mitigation Measures	
13.	a. Use lime or a similar absorbent material in the pens according to the manufacturer's recommendation to minimize moisture in the pens, or b. Apply thymol to the feedlot soil in accordance with the manufacturer's recommendation.
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<b>Table 3.2 – Beef Feedlot Phase I Mitigation Measure Requirements (continued)</b>	
D. Owners/operators that handle or store solid manure or separated solids outside the animal housing shall incorporate at least one (1) of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Cover dry manure piles outside the pens with a weatherproof covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering, or b. Store no dry manure piles outside the pens from October through May.
2.	a. Remove manure from the facility within seventy-two (72) hours of removal from the pens.
3.	a. Implement an alternative mitigation measure(s), not listed above.
Class Two Mitigation Measures	
4.	a. Compost manure removed from pens with an aerated static pile vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
5.	a. Store all removed manure in an enclosure vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
6.	a. Send at least 51% of the manure removed from the animal housing to a digester, with a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
7.	a. Use a slatted floor system (slatted floors over deep pits or shallow flush alleys), with daily manure removal.
E. Owners/operators that handle manure in a liquid form shall incorporate at least one (1) of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Manage the facility such that there are no lagoons, as defined in Section 3.35, at the facility.
2.	a. Use phototropic lagoon, or b. Use an anaerobic treatment lagoon that is not mechanically aerated.
3.	a. Remove solids from the waste system with a solid separator system, prior to the waste stream entering the lagoon.
4.	a. Maintain lagoon pH between 6.5 and 7.5.
5.	a. Implement an alternative mitigation measure(s), not listed above.
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<b>Table 3.2 – Beef Feedlot Phase I Mitigation Measure Requirements (continued)</b>	
Class Two Mitigation Measures	
6.	a. Use an aerobic lagoon, or b. Use an anaerobic treatment lagoon that is mechanically aerated.
7.	a. Maintain organic loading in the lagoon that is less than 3.5 mg (dry weight)/mL, or total volatile solids is less than 3.5 mg/mL.
8.	a. Use additional non-standard equipment or chemicals on the solid separator system, such as roller or screw presses or chemical coagulants and flocculants, that increase the percent of solid separation achieved by the separator and that is approved by the APCO, ARB, and EPA.
9.	a. Cover the lagoon and vent to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
F. Owners/operators who land apply dry or liquid manure to crop land on the facility shall incorporate at least (2) two of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Land incorporate all manure within seventy-two (72) hours of removal from animal housing.
2.	a. Only apply solid or liquid manure that has been treated with an anaerobic or aerobic lagoon or digester system.
3.	a. Allow liquid manure to stand in the fields no more than twenty-four (24) hours after irrigation, or b. Apply no liquid manure.
4.	a. Apply no solid manure with a moisture content of more than 50%, or b. Apply no solid manure.
5.	a. Implement an alternative mitigation measure(s), not listed above.

5.5.3 Other Cattle CAF: Owners/operators of a large CAF that is an Other Cattle Facility shall comply with the Phase I requirements in Table 3.3:

<b>Table 3.3 – Other Cattle Phase I Mitigation Measure Requirements</b>	
A. Owners/operators shall incorporate at least five (5) of the following feed and silage mitigation measures:	
Class One Mitigation Measures	
1.	a. Feed according to National Research Council (NRC) guidelines.
2.	a. Feed animals high moisture corn or steam-flaked corn and not feed animals with dry rolled corn.
3.	a. At least once every fourteen (14) days remove feed from the area where animals stand to eat feed.
4.	a. At least once every fourteen (14) days remove spilled feed from the area where equipment travels to place feed in the feed bunk.
5.	a. Remove uneaten wet feed from feed bunks within twenty-four (24) hours of a rain event.
6.	a. Feed or dispose of rations within forty-eight (48) hour of grinding and mixing rations.
7.	a. Store grain in a weatherproof storage structure from October through May.
8.	a. Implement an alternative mitigation measure(s), not listed above.
B. Owners/operators shall incorporate at least one (1) of the following feed mitigation measures:	
Class One Mitigation Measures	
1.	a. Cover the horizontal surface of silage piles, except for the area where feed is being removed from the pile.
2.	a. Collect leachate from the silage piles and send it to a waste treatment system such as a lagoon at least once every twenty-four (24) hours.
3.	a. Implement an alternative mitigation measure(s), not listed above.
Class Two Mitigation Measures	
4.	a. Enclose silage in a bag and vent to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%, or b. Enclose silage in a weatherproof structure and vent to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%, or c. Eliminate silage from animal diet.
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<b>Table 3.3 – Other Cattle Phase I Mitigation Measure Requirements (continued)</b>	
C. Owners/operators shall incorporate at least seven (7) of the following mitigation measures in each animal housing structure (e.g. corral, freestalls, pens, etc.):	
Class One Mitigation Measures	
1.	a. Vacuum, scrape, or flush freestalls at least once every fourteen (14) days (only applies to facilities with freestalls).
2.	a. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) days.
3.	a. Use non-manure-based bedding and non-separated solids based bedding for at least 90% of the bedding material, by weight, for freestalls (e.g. rubber mats, almond hulls, sand, or waterbeds).
4.	a. Remove manure that is not dry from individual cow freestall beds daily (only applies to facilities with freestalls).
5.	a. Rake, harrow, scrape, or grade bedding in freestalls at least once every fourteen (14) days (only applies to facilities with freestalls).
6.	a. Use a dry manure handling system, such as scraping, instead of a liquid manure handling system such as flushing.
7.	a. Have no animals in exercise pens, corrals, or drylots at any time.
8.	a. Clean manure from corrals and pens at least once between April and July and at least once between October and December of each year.
9.	a. Manage pens such that the manure depth in the pen does not exceed eighteen (18) inches at any time or point, except for in-corral mounds.
10.	a. Knockdown fence line manure build-up prior to it exceeding a height of twelve (12) inches at any time or point.
11.	a. Scrape or flush feed aprons in all corrals at least once every seven (7) days.
12.	a. Slope the surface of the pens at least 3% where the available space for each animal is 400 square feet or less. Slope the surface of the pens at least 1.5% where the available space for each animal is more than 400 square feet per animal.
13.	a. Maintain pens and corrals to ensure drainage and prevent water from standing more than forty-eight (48) hours after a storm, or b. Prior to placing cattle in pens or corrals, scrape or smooth the pen floors such that there are not indentions where puddles may form and remain for over forty-eight (48) hours.
14.	a. Install floats on the troughs or use another method approved by the APCO, ARB, and EPA to ensure that the water in the troughs does not intentionally or unintentionally overflow or spill onto the earthen ground.
15.	a. Harrow, rake, or scrape pens and corrals sufficiently to maintain a dry surface, unless the pens have not held animals in the last thirty (30) days.
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<b>Table 3.3 – Other Cattle Phase I Mitigation Measure Requirements (continued)</b>	
16.	a. Clean the area where the animals stand to consume feed such that the depth of manure does not exceed twelve (12) inches at any time or point.
17.	a. Use a dry manure handling system, such as scraping, instead of a liquid manure handling system such as a flush system.
18.	a. Install no shade structures in the corrals, or b. Install shade structures such that they are constructed with a light permeable roofing material, or c. Install shade structures such that situated so that they are uphill of any slope in the corral.
19.	a. Implement an alternative mitigation measure(s), not listed above.
<b>Class Two Mitigation Measures</b>	
20.	a. Vacuum manure instead of flushing or scraping and apply manure directly to land either through injection or incorporation.
21.	a. Use lime or a similar absorbent material in the pens and corrals according to the manufacturer's recommendations to minimize moisture in the pens, or b. Apply thymol to the pen and corral soil in accordance with the manufacturer's recommendation.
22.	a. House animals in an enclosure vented to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%.
<b>D. Owners/operators that handle or store solid manure or separated solids outside the animal housing shall incorporate at least one (1) of the following mitigation measures:</b>	
<b>Class One Mitigation Measures</b>	
1.	a. Cover dry manure piles outside the pens with a weatherproof covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering, or b. Store no dry manure piles outside of animal housing from October through May.
2.	a. Remove manure from the facility within seventy-two (72) hours of removal from the pens.
3.	a. Implement an alternative mitigation measure(s), not listed above.
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<b>Table 3.3 – Other Cattle Phase I Mitigation Measure Requirements (continued)</b>	
<b>Class Two Mitigation Measures</b>	
4.	a. Compost manure removed from pens with an aerated static pile vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
5.	a. Store all removed manure in an enclosure vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
6.	a. Send at least 51% of the manure removed from the animal housing to a digester with a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
7.	a. Use a slatted floor system (slatted floors over deep pits or shallow flush alleys), with daily manure removal.
E. Owners/operators that handle manure in a liquid form shall incorporate at least one (1) of the following mitigation measures:	
<b>Class One Mitigation Measures</b>	
1.	a. Manage the facility such that there are no lagoons, as defined in Section 3.35, at the facility.
2.	a. Use phototropic lagoon, or b. Use an anaerobic treatment lagoon that is not mechanically aerated.
3.	a. Remove solids from the waste system with a solid separator separation system.
4.	a. Maintain lagoon pH between 6.5 and 7.5.
5.	a. Implement an alternative mitigation measure(s), not listed above.
<b>Class Two Mitigation Measures</b>	
6.	a. Use an aerobic lagoon, or b. Use an anaerobic treatment lagoon that is mechanically aerated.
7.	a. Maintain organic loading in the lagoon that is less than 3.5 mg (dry weight)/mL, or total volatile solids is less than 3.5 mg/mL.
8.	a. Use additional non-standard equipment or chemicals on the solid separator system, such as roller or screw presses or chemical coagulants and flocculants, that increase the percent of solid separation achieved by the separator and that is approved by the APCO, ARB, and EPA.
9.	a. Cover the lagoon and vent to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
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<b>Table 3.3 – Other Cattle Phase I Mitigation Measure Requirements (continued)</b>	
F. Owners/operators who land apply dry or liquid manure to crop land on the facility shall incorporate at least (2) two of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Land incorporate all manure within seventy-two (72) hours of removal from animal housing.
2.	a. Only apply manure that has been treated with an anaerobic or aerobic lagoon or digester system.
3.	a. Allow liquid manure to stand in the fields no more than twenty-four (24) hours after irrigation, or b. Apply no liquid manure.
4.	a. Apply no solid manure with a moisture content of more than 50%, or b. Apply no solid manure.
5.	a. Implement an alternative mitigation measure(s), not listed above.

5.5.4 Swine CAF: Owners/operators of a Large CAF that is a Swine Facility shall comply with the Phase I requirements in Table 3.4:

<b>Table 3.4 – Swine Phase I Mitigation Measure Requirements</b>	
A. Owners/operators shall incorporate at least five (5) of the following feed and silage mitigation measures:	
Class One Mitigation Measures	
1.	a. Feed according to National Research Council (NRC) guidelines.
2.	a. Feed animals probiotics designed to improve digestion according to manufacturer recommendations.
3.	a. Feed animals at least 5% cellulose.
4.	a. Feed animals a casein based diet.
5.	a. Feed animals an amino acid-supplemented diet with 2% sucrose thermal oligosaccharide caramel.
6.	a. Feed animals a diet with no more than ten percent (10%) crude protein with supplemented lysine, threonine, tryptophan, and methionine.
7.	a. Feed animals 10 ppm anthraquinone.
8.	a. Remove spilled from the facility at least once every fourteen (14) days.
9.	a. Remove uneaten wet feed from the housing within twenty-four (24) hours of a rain event.
10.	a. Feed or dispose of rations within forty-eight (48) hour of grinding and mixing rations.
11.	a. Store grain in a weatherproof storage structure from October through May.
12.	a. Implement an alternative mitigation measure(s), not listed above.
B. Owners/operators shall incorporate at least five (5) of the following mitigation measures in each animal housing unit:	
Class One Mitigation Measures	
1.	a. Clean manure from the housing at least twice every fourteen (14) days.
2.	a. Manage pens such that the manure depth in the pen does not exceed eighteen (18) inches at any time or point.
3.	a. Slope the surface of the pens at least 3% where the available space for each animal is 400 square feet or less. Slope the surface of the pens at least 1.5% where the available space for each animal is more than 400 square feet per animal.
4.	a. Install floats on the troughs or use drinkers that do not drip or another method approved by the APCO, ARB, and EPA to ensure that the water in the troughs does not intentionally or unintentionally overflow or spill onto an earthen ground.
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<b>Table 3.4 – Swine Phase I Mitigation Measure Requirements (continued)</b>	
5.	a. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) days.
6.	a. Use a slatted floor system (slatted floors over deep pits or shallow flush alleys), with daily manure removal.
7.	a. Implement an alternative mitigation measure(s), not listed above.
<b>Class Two Mitigation Measures</b>	
8.	a. Use lime or a similar absorbent material in the pens according to the manufacturer's recommendations to minimize moisture in the pens.
9.	a. House animals in an enclosure vented to a VOC control device with a combined VOC capture and VOC control efficiency of at least 80%
10.	a. House animals in a tunnel ventilated house with mechanical ventilation.
C. Owners/operators that handle or store solid manure or separated solids outside the animal housing shall incorporate at least one (1) of the following mitigation measures:	
<b>Class One Mitigation Measures</b>	
1.	a. Cover dry manure and separated solids outside the pens with a weatherproof covering from October through May except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.
2.	a. Remove manure from the facility within seventy-two (72) hours of removal from the pens or corrals.
3.	a. Use a dry manure handling system, such as stockpiles or solid land application, instead of a liquid system such as a flush system.
4.	a. Implement an alternative mitigation measure(s), not listed above.
<b>Class Two Mitigation Measures</b>	
5.	a. Compost manure removed from pens with an aerated static pile vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
6.	a. Store all removed manure in an enclosure vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
7.	a. Send at least 51% of the manure removed from site to a digester with a VOC control device with an overall VOC capture and VOC control efficiency of at least 80% control efficiency.
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<b>Table 3.4 – Swine Phase I Mitigation Measure Requirements (continued)</b>	
D. Owners/operators that handle manure in a liquid form shall incorporate at least one (1) of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Manage the facility such that there are no lagoons, as defined in Section 3.35, at the facility.
2.	a. Use phototropic lagoon, or b. Use an anaerobic treatment lagoon.
3.	a. Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon.
4.	a. Maintain lagoon pH between 6.5 and 7.5.
5.	a. Implement an alternative mitigation measure(s), not listed above.
Class Two Mitigation Measures	
6.	a. Use an aerobic lagoon, or b. Use a mechanically aerated lagoon.
7.	a. Maintain organic loading in the lagoon that is less than 3.5 mg (dry weight)/mL, or total volatile solids is less than 3.5 mg/mL.
8.	a. Use additional non-standard equipment or chemicals on the solid separator system, such as roller or screw presses or chemical coagulants and flocculants, that increase the percent of solid separation achieved by the separator and that is approved by the APCO, ARB, and EPA.
9.	a. Cover the lagoon and vent to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
E. Owners/operators who land apply dry or liquid manure to crop land on the facility shall incorporate at least (2) two of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Land incorporate all solid manure within seventy-two (72) hours of removal from animal housing, or
2.	a. Only apply manure that has been treated with an anaerobic or aerobic lagoon or digester system.
3.	a. Allow liquid manure to stand in the fields no more than twenty-four (24) hours after irrigation, or b. Apply no liquid manure.
4.	a. Apply no solid manure with a moisture content of more than 50%, or b. Apply no solid manure.
5.	a. Implement an alternative mitigation measure(s), not listed above.

5.5.5 Poultry CAF: Owners/operators of a large CAF that is a Poultry Facility shall comply with the Phase I requirements in Table 3.5:

<b>Table 3.5 – Poultry Phase I Mitigation Measure Requirements</b>	
A. Owners/operators shall incorporate at least five (5) of the following feed mitigation measures:	
Class One Mitigation Measures	
1.	a. Feed according to NRC guidelines.
2.	a. Feed animals probiotics designed to improve digestion according to manufacturer recommendations, or
3.	a. Feed animals an amino acid-supplemented diet to meet their nutrient requirements, or
4.	a. Feed animals feed additives such as amylase, xylanase, and protease, designed to maximize digestive efficiency according to manufacturer recommendations.
5.	a. Remove spilled feed from housing at least once every seven (7) days.
6.	a. Enclose grain in a weatherproof storage structure from October through May.
7.	a. Feed or dispose of feed within forty-eight (48) hour of grinding and mixing feed.
8.	a. Use feed additives designed to reduce feed decomposition or oxidization (the process were one or more electrons are removed from a molecule).
9.	a. Remove uneaten wet feed from the housing within twenty-four (24) hours of a rain event.
10.	a. Implement an alternative mitigation measure(s), not listed above.
B. Each poultry house shall incorporate at least four (4) of the following mitigation measures:	
Class One Mitigation Measures	
1.	a. Remove caked manure/litter at least once every fourteen (14) days.
2.	a. Clean under poultry cages at least once every fourteen (14) days.
3.	a. Use poultry litter additives designed to reduce air emissions or moisture content in litter, such as aluminum sulfate or sodium bisulfate, according to manufacturer recommendations.
4.	a. Use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues.
5.	a. Use drinkers that do not drip.
6.	a. Adjust the height, volume, and location of drinkers at least once every fourteen (14) days.
7.	a. Use no foggers in the house.
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<b>Table 3.5 – Poultry Phase I Mitigation Measure Requirements (continued)</b>	
8.	a. Only use fogger systems designed, operated and maintained according to manufacturer recommendations that provide water droplets with an average size of 50 microns or less.
9.	a. Slope the surface of the house at least 3% where the available space for each animal is 400 square feet or less. Slope the surface of the house at least 1.5% where the available space for each animal is more than 400 square feet per animal.
10.	a. Install mounds or berms up gradient to prevent the runoff of stormwater into pens (only an option for animals allowed to freely move between indoor housing structures and outdoor pens).
11.	a. Inspect water pipes and drinkers and repair leaks at least once every fourteen (14) days.
12.	a. Maintain the roof structure and manage roof runoff in accordance with the applicable standards in NRCS Field Office Technical Guide Code 558 or other applicable standards approved by the APCO, ARB, and EPA
13.	a. Implement an alternative mitigation measure(s), not listed above.
<b>Class Two Mitigation Measures</b>	
14.	a. Vent housing to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
15.	a. Use a belt litter removal system that dries the litter.
16.	a. House animals in a tunnel ventilated houses with mechanical ventilation.
17.	a. Use a litter drying system, such as a flat bed drying system.
C. Owners/operators that handle or store solid manure/litter or separated solids outside the animal housing shall incorporate at least one (1) of the following mitigation measures:	
<b>Class One Mitigation Measures</b>	
1.	a. Remove all manure/litter from the facility within seventy-two (72) hours of removal from housing, or b. Send all manure/litter to a lagoon within seventy-two (72) hours of removal from housing.
2.	a. Cover manure/litter outside the housing with a weatherproof covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.
3.	a. Use a solid manure/litter handling system in housing, such as stockpiles, solid land application, or a thin bed manure/litter drying system, instead of a liquid system such as flushing, manure/litter storage ponds, or manure/litter treatment lagoons.
4.	a. Implement an alternative mitigation measure(s), not listed above.
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<b>Table 3.5 – Poultry Phase I Mitigation Measure Requirements (continued)</b>	
<b>Class Two Mitigation Measures</b>	
5.	a. Send at least 51% of the manure/litter removed from site to a digester, with a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
6.	a. Compost manure/litter removed from the housing with an aerated static pile vented to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.
D. Owners/operators that handle manure/litter in a liquid form shall incorporate at least one (1) of the following mitigation measures:	
<b>Class One Mitigation Measures</b>	
1.	a. Manage the facility such that there are no lagoons, as defined in Section 3.35, at the facility.
2.	a. Use phototropic lagoon, or b. Use an anaerobic treatment lagoon.
3.	a. Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon.
4.	a. Maintain lagoon pH between 6.5 and 7.5.
5.	a. Implement an alternative mitigation measure(s), not listed above.
<b>Class Two Mitigation Measures</b>	
6.	a. Use an aerobic lagoon, or b. Use a mechanically aerated lagoon.
7.	a. Maintain organic loading in the lagoon that is less than 3.5 mg (dry weight)/mL, or total volatile solids is less than 3.5 mg/mL.
8.	a. Use additional non-standard equipment or chemicals on the solid separator system, such as roller or screw presses or chemical coagulants and flocculants, that increase the percent of solid separation achieved by the separator and is approved by the APCO, ARB, and EPA.
9.	a. Cover the lagoon or storage pond and vent to a VOC control device with an overall VOC capture and VOC control efficiency of at least 80%.

5.6 Phase II Mitigation Measures: Owners/operators of CAFs subject to the regulatory threshold in Table 2 shall comply with all applicable Phase II Mitigation Measures in accordance with the compliance schedule in Section 8.0.

5.6.1 Dairy CAF: An owner/operator of a medium or large Dairy CAF shall comply with the Phase II mitigation measures in Table 4.1.

<b>Table 4.1 – Dairy CAF Phase II Mitigation Measure Requirements</b>	
<p><b>A. Feed:</b> An owner/operator of a dairy CAF shall implement mitigation measures 1, 2, 3, and 4 and at least one (1) additional mitigation measure:</p>	
1.	Feed according to National Research Council (NRC) guidelines.
2.	Push feed so that it is within three (3) feet of feedlane fence within two hours of putting out the feed or use a feed trough or other feeding structure designed to maintain feed within reach of the cows.
3.	Begin feeding total mixed rations within two (2) hours of grinding and mixing rations.
4.	Store grain in a weatherproof storage structure or under a weatherproof covering from October through May.
5.	Feed steam-flaked, dry rolled, cracked or ground corn or other steam-flaked, dry rolled, cracked or ground cereal grains.
6.	Remove uneaten wet feed from feed bunks within twenty-four (24) hours after the end of a rain event.
7.	For total mixed rations that contain at least 30% by weight of silage, feed animals total mixed rations that contain at least 45% moisture.
8.	Implement an alternative mitigation measure(s), not listed above.
<p><b>B. Silage:</b> An owner/operator of a dairy CAF that feeds silage shall implement at least one (1) of the following silage mitigation measures:</p>	
1.	<p>Operators selecting this option must choose mitigation measure 1a plus one (1) from mitigation measures 1b, 1c, 1d plus two (2) from mitigation measures 1e, 1f, 1g:</p> <p>a. Cover the surface of silage piles, except for the area where feed is being removed from the pile, with a plastic tarp that is at least five (5) mils thick (0.005 inches), multiple plastic tarps with a cumulative thickness of at least 5 mils (0.005 inches), or an oxygen barrier film covered with a UV resistant material, within seventy-two (72) hours of last delivery of material to the pile.</p>
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**Table 4.1 – Dairy CAF Phase II Mitigation Measure Requirements (continued)**

Choose one of the following:

- b. Build silage piles such that the average bulk density of silage piles is at least 44 lb/cu ft for corn silage and 40 lb/cu ft for other silage types, as measured in accordance with Section 7.11; or
- c. When creating a silage pile, adjust filling parameters to assure a calculated average bulk density of at least 44 lb/cu ft for corn silage and at least 40 lb/cu ft for other silage types, using a spreadsheet approved by the District; or
- d. Incorporate all of the following practices when creating silage piles:
  - i. Harvest silage crop at  $\geq 65\%$  moisture for corn; and  $\geq 60\%$  moisture for alfalfa/grass and other silage crops; and
  - ii. Incorporate the following parameters for Theoretical Length of Chop (TLC) and roller opening, as applicable, for the crop being harvested.

<b>Crop Harvested</b>	<b>TLC (inches)</b>	<b>Roller Opening (mm)</b>
Corn with no processing	$\leq 1/2$ in	N/A
Processed Corn < 35% dry matter	$\leq 3/4$ in	1 - 4 mm
Alfalfa/Grass	$\leq 1.0$ in	N/A
Wheat/Cereal Grains/Other	$\leq 1/2$ in	N/A

- iii. Manage silage material delivery such that no more than six (6) inches of material are un-compacted on top of the pile.

Choose two of the following:

- e. Manage exposed silage (select one of the following):
  - i. Manage silage piles such that only one silage pile has an uncovered face and the uncovered face has a total exposed surface area of less than 2,150 square feet; or
  - ii. Manage multiple uncovered silage piles such that the total exposed surface area of all uncovered silage piles is less than 4,300 square feet.

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<b>Table 4.1 – Dairy CAF Phase II Mitigation Measure Requirements (continued)</b>	
	<ul style="list-style-type: none"> <li>f. Maintain silage working face (select one of the following):               <ul style="list-style-type: none"> <li>i. Use a shaver/facer to remove silage from the silage pile; or</li> <li>ii. Maintain a smooth vertical surface on the working face of the silage pile.</li> </ul> </li> <li>g. Silage Additives (select one of the following):               <ul style="list-style-type: none"> <li>i. Inoculate silage with homolactic lactic acid bacteria in accordance with manufacturer recommendations to achieve a concentration of at least 100,000 colony forming units per gram of wet forage; or</li> <li>ii. Apply propionic acid, benzoic acid, sorbic acid, sodium benzoate, or potassium sorbate at a rate specified by the manufacturer to reduce yeast counts when forming silage pile; or</li> <li>iii. Apply other additives at specified rates that have been demonstrated to reduce alcohol concentrations in silage and/or VOC emissions from silage and have been approved by the District and EPA.</li> </ul> </li> </ul>
2.	Utilize a sealed feed storage system (e.g., Ag-Bag) for silage.
3.	Implement an alternative mitigation measure(s), not listed above.
<p><b>C. Milking Parlor:</b>            An owner/operator of a dairy CAF shall implement at least one (1) of the following mitigation measures in each milking parlor:</p>	
1.	Flush or hose milking parlor immediately prior to, immediately after, or during each milking.
2.	Implement an alternative mitigation measure(s), not listed above.
<p><b>D. Freestall Barn:</b>            An owner/operator of a dairy CAF that houses animals in freestalls shall implement mitigation measures 1 and 2 and at least one (1) additional mitigation measure in each freestall barn:</p>	
1.	Pave feedlanes, where present, for a width of at least eight (8) feet along the corral side of the feedlane fence for milk and dry cows and at least six (6) feet along the corral side of the feedlane for heifers.
2.	Choose one of the following: <ul style="list-style-type: none"> <li>a. Flush, scrape, or vacuum freestall flush lanes immediately prior to, immediately after, or during each milking; or</li> <li>b. Flush or scrape freestall flush lanes at least three (3) times per day.</li> </ul>
3.	Use non-manure-based bedding and non-separated solids based bedding for at least 90% of the bedding material, by weight, for freestalls (e.g. rubber mats, almond shells, sand, or waterbeds).
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<b>Table 4.1 – Dairy CAF Phase II Mitigation Measure Requirements (continued)</b>	
4.	For a large dairy CAF, remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every seven (7) days.  For a medium dairy CAF, remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every fourteen (14) days.
5.	Have no animals in exercise pens or corrals at any time.
6.	Implement an alternative mitigation measure(s), not listed above.
<b>E. Corrals:</b> An owner/operator of a dairy CAF that houses animals in corrals shall implement mitigation measures 1, 2, 3, 4, 5, and 6 and at least one (1) additional mitigation measure in each corral where animals have been housed in the last thirty (30) days:	
1.	Pave feedlanes, where present, for a width of at least 8 feet along the corral side of the feedlane fence for milk and dry cows and at least 6 feet along the corral side of the feedlane for heifers.-
2.	Choose one of the following: a. Clean manure from corrals at least four (4) times per year with at least sixty (60) days between cleaning; or b. Clean corrals at least once between April and July and at least once between September and December.-
3.	Choose one of the following: a. Scrape, vacuum, or flush concrete lanes in corrals at least once every day for mature cows and every seven (7) days for support stock; or b. Clean concrete lanes such that the depth of manure does not exceed twelve (12) inches at any point or time.
4.	Inspect water pipes and troughs and repair leaks at least once every seven (7) days.
5.	Choose one of the following: a. Slope the surface of the corrals at least 3% where the available space for each animal is 400 square feet or less. Slope the surface of the corrals at least 1.5% where the available space for each animal is more than 400 square feet per animal; or b. Maintain corrals to ensure proper drainage preventing water from standing more than forty-eight (48) hours; or c. Harrow, rake, or scrape corrals sufficiently to maintain a dry surface.
6.	If the CAF has shade structures, they must choose one of the following: a. Install shade structures such that they are constructed with a light permeable roofing material; or b. Install all shade structures uphill of any slope in the corral; or c. Clean manure from under corral shades at least once every fourteen (14) days, when weather permits access into the corral; or d. Install shade structure so that the structure has a North/South orientation.
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<b>Table 4.1 – Dairy CAF Phase II Mitigation Measure Requirements (continued)</b>	
7.	Manage corrals such that the manure depth in the corral does not exceed twelve (12) inches at any time or point, except for in-corral mounding. Manure depth may exceed 12 inches when corrals become inaccessible due to rain events. The facility must resume management of the manure depth of 12 inches or lower immediately upon the corral becoming accessible.
8.	Knockdown fence line manure build-up prior to it exceeding a height of twelve (12) inches at any time or point. Manure depth may exceed 12 inches when corrals become inaccessible due to rain events. The facility must resume management of the manure depth of 12 inches or lower immediately upon the corral becoming accessible.
9.	Choose one of the following: a. Use lime or a similar absorbent material in the corrals according to the manufacturer's recommendation; or b. Apply thymol to the feedlot soil in accordance with the manufacturer's recommendation.
10.	Implement an alternative mitigation measure(s), not listed above.
<b>F. Solid Manure/Separated Solids:</b> Owners/operators of a large dairy CAF that handle or store solid manure or separated solids outside the animal housing shall implement at least one (1) of the following mitigation measures:	
1.	Within seventy-two (72) hours of removal from housing, either: a. Remove dry manure from the facility; or b. Cover dry manure outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed twenty-four (24) hours per event.
2.	Within seventy-two (72) hours of removal from the drying process, either: a. Remove separated solids from the facility; or b. Cover separated solids outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed twenty-four (24) hours per event.
3.	Implement an alternative mitigation measure(s), not listed above.
<b>G. Liquid Manure:</b> An owner/operator of a dairy CAF that handles manure in a liquid form shall implement at least one (1) of the following mitigation measures:	
1.	Use a phototropic lagoon.
2.	Use an anaerobic treatment lagoon designed in accordance with NRCS Guideline No. 359.
3.	Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon.
4.	Maintain lagoon pH between 6.5 and 7.5.
5.	Implement an alternative mitigation measure(s), not listed above.
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<b>Table 4.1 – Dairy CAF Phase II Mitigation Measure Requirements (continued)</b>	
H.	<p><b>Land Application:</b>  An owner/operator of a dairy CAF who land applies manure to crop land on the facility shall implement the following applicable mitigation measures:</p>
1.	<p>If the CAF applies solid manure, choose one of the following:</p> <ul style="list-style-type: none"> <li>a. Incorporate all solid manure within seventy-two (72) hours of land application; or</li> <li>b. Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon, or digester system; or</li> <li>c. Apply no solid manure with a moisture content of more than 50%; or</li> <li>d. Implement an alternative mitigation measure(s), not listed above.</li> </ul>
2.	<p>If the CAF applies liquid manure, choose one of the following:</p> <ul style="list-style-type: none"> <li>a. Only apply liquid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon, or digester system; or</li> <li>b. Allow liquid manure to stand in the fields for no more than twenty-four (24) hours after irrigation; or</li> <li>c. Apply liquid/slurry manure via injection with drag hose or similar apparatus; or</li> <li>d. Implement an alternative mitigation measure(s), not listed above.</li> </ul>

5.6.2 Beef Feedlots: Owners/operators of a beef feedlot CAF shall comply with the Phase II mitigation measures in Table 4.2.

<b>Table 4.2 – Beef Feedlot Phase II Mitigation Measure Requirements</b>	
<p><b>A. Feed:</b> An owner/operator of a beef feedlot CAF shall implement at least two (2) of the following feed mitigation measures:</p>	
1.	Feed according to National Research Council (NRC) guidelines.
2.	Feed steam-flaked, dry rolled, cracked or ground corn or other steam-flaked, dry rolled, cracked or ground cereal grains.
3.	Remove uneaten wet feed from feed bunks within twenty-four (24) hours after the end of a rain event.
4.	Implement an alternative mitigation measure(s), not listed above.
<p><b>B. Silage:</b> An owner/operator of a beef feedlot CAF that feeds silage shall implement at least one (1) of the following silage mitigation measures:</p>	
1.	<p>Operators selecting this option must choose mitigation measure 1a plus one (1) from mitigation measures 1b, 1c, 1d plus two (2) from mitigation measures 1e, 1f, 1g:</p> <p>a. Cover the surface of silage piles, except for the area where feed is being removed from the pile, with a plastic tarp that is at least five (5) mils thick (0.005 inches), multiple plastic tarps with a cumulative thickness of at least 5 mils (0.005 inches), or an oxygen barrier film covered with a UV resistant material, within seventy-two (72) hours of last delivery of material to the pile.</p>
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**Table 4.2 – Beef Feedlot Phase II Mitigation Measure Requirements (continued)**

Choose one of the following:

- b. Build silage piles such that the average bulk density of silage piles is at least 44 lb/cu ft for corn silage and 40 lb/cu ft for other silage types, as measured in accordance with Section 7.11; or
- c. When creating a silage pile, adjust filling parameters to assure a calculated average bulk density of at least 44 lb/cu ft for corn silage and at least 40 lb/cu ft for other silage types, using a spreadsheet approved by the District; or
- d. Incorporate all of the following practices when creating silage piles:
  - i. Harvest silage crop at  $\geq 65\%$  moisture for corn; and  $\geq 60\%$  moisture for alfalfa/grass and other silage crops; and
  - ii. Incorporate the following parameters for Theoretical Length of Chop (TLC) and roller opening, as applicable, for the crop being harvested.

Crop Harvested	TLC (inches)	Roller Opening (mm)
Corn with no processing	$\leq 1/2$ in	N/A
Processed Corn < 35% dry matter	$\leq 3/4$ in	1 - 4 mm
Alfalfa/Grass	$\leq 1.0$ in	N/A
Wheat/Cereal Grains/Other	$\leq 1/2$ in	N/A

- iii. Manage silage material delivery such that no more than six (6) inches of material are un-compacted on top of the pile.

Choose two of the following:

- e. Manage exposed silage (select one of the following):
  - i. Manage silage piles such that only one silage pile has an uncovered face and the uncovered face has a total exposed surface area of less than 2,150 square feet; or
  - ii. Manage multiple uncovered silage piles such that the total exposed surface area of all uncovered silage piles is less than 4,300 square feet.

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<b>Table 4.2 – Beef Feedlot Phase II Mitigation Measure Requirements (continued)</b>	
	<p>f. Maintain silage working face (select one of the following):</p> <ul style="list-style-type: none"> <li>i. Use a shaver/facer to remove silage from the silage pile; or</li> <li>ii. Maintain a smooth vertical surface on the working face of the silage pile.</li> </ul> <p>g. Silage Additives (select one of the following):</p> <ul style="list-style-type: none"> <li>i. Inoculate silage with homolactic lactic acid bacteria in accordance with manufacturer recommendations to achieve a concentration of at least 100,000 colony forming units per gram of wet forage; or</li> <li>ii. Apply propionic acid, benzoic acid, sorbic acid, sodium benzoate, or potassium sorbate at a rate specified by the manufacturer to reduce yeast counts when forming silage pile; or</li> <li>iii. Apply other additives at specified rates that have been demonstrated to reduce alcohol concentrations in silage and/or VOC emissions from silage and have been approved by the District and EPA.</li> </ul>
2.	Utilize a sealed feed storage system (e.g., Ag-Bag) for silage.
3.	Implement an alternative mitigation measure(s), not listed above.
C. Housing: An owner/operator of a beef feedlot CAF shall implement mitigation measures 1, 2, 3, and 4 and at least one (1) additional mitigation measure in each of the animal housing structures (e.g. each corral, etc.):	
1.	Scrape corrals twice a year with at least ninety (90) days between cleanings, excluding the removal of in-corral mounds.
2.	Inspect water pipes and troughs and repair leaks at least once every seven (7) days.
3.	<p>Choose one of the following:</p> <ul style="list-style-type: none"> <li>a. Slope the surface of the corrals at least 3% where the available space for each animal is 400 square feet or less. Slope the surface of the corrals at least 1.5% where the available space for each animal is more than 400 square feet per animal.</li> <li>b. Maintain corrals to ensure proper drainage preventing water from standing more than forty-eight (48) hours; or</li> <li>c. Harrow, rake, or scrape corrals sufficiently to maintain a dry surface, unless the corrals have not held animals in the last thirty (30) days.</li> </ul>
4.	<p>If the CAF has shade structures, they must choose with one of the following:</p> <ul style="list-style-type: none"> <li>a. Install shade structures such that they are constructed with a light permeable roofing material; or</li> <li>b. Install all shade structures uphill of any slope in the corral; or</li> <li>c. Install shade structure so that the structure has a North/South orientation.</li> </ul>
5.	Manage corrals and concrete lanes such that the dry manure depth in the pen does not exceed twelve (12) inches at any time or point, except for in-corral mounds. Manure depth may exceed twelve (12) inches when corrals become inaccessible due to rain events. The facility must resume management of the manure depth of twelve (12) inches or lower immediately upon the corral becoming accessible.
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<b>Table 4.2 – Beef Feedlot Phase II Mitigation Measure Requirements (continued)</b>	
6.	Knockdown fence line manure build-up prior to it exceeding a height of twelve (12) inches at any time or point. Manure depth may exceed twelve (12) inches when corrals become inaccessible due to rain events. The facility must resume management of the manure depth of twelve (12) inches or lower immediately upon the corral becoming accessible.
7.	Implement an alternative mitigation measure(s), not listed above.
<b>D. Solid Manure/Separated Solids:</b> An owner/operator of a beef feedlot CAF that handles or stores solid manure or separated solids outside the animal housing shall implement at least one (1) of the following mitigation measures:	
1.	Choose one of the following: a. Within 72 hours of removal from animal housing, either remove dry manure from the facility or, during the months of October through May, cover dry manure pile with a weatherproof covering, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.; or b. Manage moisture content of manure to less than 50%.
2.	Implement an alternative mitigation measure(s), not listed above.
<b>E. Liquid Manure:</b> An owner/operator of a beef feedlot CAF that handles manure in a liquid form shall implement at least one (1) of the following mitigation measures:	
1.	Use a phototropic lagoon.
2.	Use an anaerobic treatment lagoon designed in accordance with NRCS Guideline No. 359.
3.	Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon.
4.	Maintain lagoon pH between 6.5 and 7.5.
5.	Implement an alternative mitigation measure(s), not listed above.
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<b>Table 4.2 – Beef Feedlot Phase II Mitigation Measure Requirements (continued)</b>	
<p><b>F. Land Application:</b>  An owner operator of a beef feedlot CAF who land applies manure to crop land on the facility shall implement the following applicable mitigation measures:</p>	
1.	<p>If the CAF applies solid manure, choose one of the following:</p> <ul style="list-style-type: none"> <li>a. Incorporate all solid manure within seventy-two (72) hours of land application; or</li> <li>b. Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon, or digester system; or</li> <li>c. Apply no solid manure with a moisture content of more than 50%; or</li> <li>d. Implement an alternative mitigation measure(s), not listed above.</li> </ul>
2.	<p>If the CAF applies liquid manure, choose one of the following:</p> <ul style="list-style-type: none"> <li>a. Only apply liquid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon, or digester system; or</li> <li>b. Allow liquid manure to stand in the fields for no more than twenty-four (24) hours after irrigation; or</li> <li>c. Apply liquid/slurry manure via injection with drag hose or similar apparatus; or</li> <li>d. Implement an alternative mitigation measure(s), not listed above.</li> </ul>

5.6.3 Other Cattle CAF: Owners/operators of an other cattle CAF shall comply with the Phase II mitigation measures in Table 4.3.

<b>Table 4.3 – Other Cattle Phase II Mitigation Measure Requirements</b>	
<p><b>A. Feed:</b> An owner/operator of an other cattle CAF shall implement at least two (2) of the following feed mitigation measures:</p>	
1.	Feed according to National Research Council (NRC) guidelines.
2.	Feed steam-flaked, dry rolled, cracked or ground corn or other steam-flaked, dry rolled, cracked or ground cereal grains.
3.	Remove uneaten wet feed from feed bunks within twenty-four (24) hours after the end of a rain event.
4.	Implement an alternative mitigation measure(s), not listed above.
<p><b>B. Silage:</b> An owner/operator of an other cattle CAF that feeds silage shall implement at least one (1) of the following silage mitigation measures:</p>	
1.	<p>Operators selecting this option must choose mitigation measure 1a plus one (1) from mitigation measures 1b, 1c, 1d plus two (2) from mitigation measures 1e, 1f, 1g:</p> <p>a. Cover the surface of silage piles, except for the area where feed is being removed from the pile, with a plastic tarp that is at least five (5) mils thick (0.005 inches), multiple plastic tarps with a cumulative thickness of at least 5 mils (0.005 inches), or an oxygen barrier film covered with a UV resistant material, within seventy-two (72) hours of last delivery of material to the pile.</p>
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**Table 4.3 – Other Cattle Phase II Mitigation Measure Requirements**

- Choose one of the following:
- b. Build silage piles such that the average bulk density of silage piles is at least 44 lb/cu ft for corn silage and 40 lb/cu ft for other silage types as measured in accordance with Section 7.11; or
  - c. When creating a silage pile, adjust filling parameters to assure a calculated average bulk density of at least 44 lb/cu ft. for corn silage and at least 40 lb/cu ft for other silage types using a spreadsheet approved by the District; or
  - d. Incorporate all of the following practices when creating silage piles:
    - i. Harvest silage crop at  $\geq 65\%$  moisture for corn; and  $\geq 60\%$  moisture for alfalfa/grass and other silage crops; and
    - ii. Incorporate the following parameters for Theoretical Length of Chop (TLC) and roller opening, as applicable, for the crop being harvested.

<b>Crop Harvested</b>	<b>TLC (inches)</b>	<b>Roller Opening (mm)</b>
Corn with no processing	$\leq 1/2$ in	N/A
Processed Corn <35% dry matter	$\leq 3/4$ in	1 - 4 mm
Alfalfa/Grass	$\leq 1.0$ in	N/A
Wheat/Cereal Grains/Other	$\leq 1/2$ in	N/A

- iii. Manage silage material delivery such that no more than six (6) inches of material are un-compacted on top of the pile.

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**Table 4.3 – Other Cattle Phase II Mitigation Measure Requirements (continued)**

	<p>Choose one of the following:</p> <ul style="list-style-type: none"> <li>e. Manage exposed silage (select one of the following): <ul style="list-style-type: none"> <li>i. Manage silage piles such that only one silage pile has an uncovered face and the uncovered face has a total exposed surface area of less than 2,150 square feet; or</li> <li>ii. Manage multiple uncovered silage piles such that the total exposed surface area of all uncovered silage piles is less than 4,300 square feet.</li> </ul> </li> <li>f. Maintain silage working face (select one of the following): <ul style="list-style-type: none"> <li>i. Use a shaver/facer to remove silage from the silage pile; or</li> <li>ii. Maintain a smooth vertical surface on the working face of the silage pile.</li> </ul> </li> <li>g. Silage Additives (select one of the following): <ul style="list-style-type: none"> <li>i. Inoculate silage with homolactic lactic acid bacteria in accordance with manufacturer recommendations to achieve a concentration of at least 100,000 colony forming units per gram of wet forage; or</li> <li>ii. Apply propionic acid, benzoic acid, sorbic acid, sodium benzoate, or potassium sorbate at a rate specified by the manufacturer to reduce yeast counts when forming silage pile; or</li> <li>iii. Apply other additives at specified rates that have been demonstrated to reduce alcohol concentrations in silage and/or VOC emissions from silage and have been approved by the District and EPA.</li> </ul> </li> </ul>
2.	Utilize a sealed feed storage system (e.g., Ag-Bag) for silage.
3.	Implement an alternative mitigation measure(s), not listed above.
<p>C. Freestalls: An owner/operator of an other cattle CAF that houses animals in freestalls shall implement mitigation measures 1 and 2 and at least one (1) additional mitigation measure in each freestall barn:</p>	
1.	Vacuum, scrape, or flush freestalls at least once every seven (7) days.
2.	Pave feedlanes, where present, for a width of at least six (6) feet along the corral side of the feedlane.
3.	Use non-manure-based bedding and non-separated solids based bedding for at least 90% of the bedding material, by weight, for freestalls (e.g. rubber mats, almond shells, sand, or waterbeds).
4.	Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade bedding in freestalls at least once every seven (7) days.
5.	Implement an alternative mitigation measure(s), not listed above.
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**Table 4.3 – Other Cattle Phase II Mitigation Measure Requirements (continued)**

<b>D. Corrals:</b> An owner/operator of a other cattle CAF that houses animals in corrals shall implement mitigation measures 1, 2, 3, 4, and 5 and at least one (1) additional mitigation measure in each corral where animals have been housed in the last thirty (30) days:	
1.	Scrape corrals twice a year with at least 90 days between cleanings, excluding in-corral mounds.
2.	Choose one of the following: a. Scrape, vacuum, or flush concrete lanes in corrals at least once every seven (7) days; or b. Clean concrete lanes such that the depth of manure does not exceed twelve (12) inches at any point or time.
3.	Inspect water pipes and troughs and repair leaks at least once every seven (7) days.
4.	Choose one of the following: a. Slope the surface of the corrals at least 3% where the available space for each animal is 400 square feet or less. Slope the surface of the corrals at least 1.5% where the available space for each animal is more than 400 square feet per animal. b. Maintain corrals to ensure proper drainage preventing water from standing more than forty-eight (48) hours; or c. Harrow, rake, or scrape corrals and corrals sufficiently to maintain a dry surface, unless the corrals have not held animals in the last thirty (30) days.
5.	If the CAF has shade structures, they must choose one of the following: a. Install shade structures such that they are constructed with a light permeable roofing material; or b. Install all shade structures uphill of any slope in the corral; or c. Install shade structure so that the structure has a North/South orientation.
6.	Manage corrals and concrete lanes such that the dry manure depth in the pen does not exceed twelve (12) inches at any time or point, except for in-corral mounds. Manure depth may exceed twelve (12) inches when corrals become inaccessible due to rain events. The facility must resume management of the manure depth of twelve (12) inches or lower immediately upon the corral becoming accessible.
7.	Knockdown fence line manure build-up prior to it exceeding a height of twelve (12) inches at any time or point. Manure depth may exceed twelve (12) inches when corrals become inaccessible due to rain events. The facility must resume management of the manure depth of twelve (12) inches or lower immediately upon the corral becoming accessible.
8.	Choose one of the following: a. Use lime or a similar absorbent material in the corrals according to the manufacturer's recommendation; or b. Apply thymol to the feedlot soil in accordance with the manufacturer's recommendation.
9.	Implement an alternative mitigation measure(s), not listed above.
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<b>Table 4.3 – Other Cattle Phase II Mitigation Measure Requirements (continued)</b>	
<p><b>E. Solid Manure/Separated Solids:</b> An owner operator of an other cattle CAF that handles or stores solid manure or separated solids outside the animal housing shall implement at least one (1) of the following mitigation measures:</p>	
1.	<p>Within seventy-two (72) hours of removal from housing, either:</p> <ul style="list-style-type: none"> <li>a. Remove dry manure from the facility; or</li> <li>b. Cover dry manure outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed twenty-four (24) hours per event.</li> </ul>
2.	<p>Within seventy-two (72) hours of removal from the drying process, either:</p> <ul style="list-style-type: none"> <li>a. Remove separated solids from the facility; or</li> <li>b. Cover separated solids outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed twenty-four (24) hours per event.</li> </ul>
3.	Implement an alternative mitigation measure(s), not listed above.
<p><b>F. Liquid Manure:</b> An owner/operator of an other cattle CAF that handles manure in a liquid form shall implement at least one (1) of the following mitigation measures:</p>	
1.	Use a phototropic lagoon.
2.	Use an anaerobic treatment lagoon designed in accordance with NRCS Guideline No. 359.
3.	Remove solids from the waste system with a solid separator separation system.
4.	Maintain lagoon pH between 6.5 and 7.5.
5.	Implement an alternative mitigation measure(s), not listed above.
<p><b>G. Land Application:</b> An owner/operator of an other cattle CAF who land applies manure to crop land on the facility shall implement the following applicable mitigation measures:</p>	
1.	<p>If the CAF applies solid manure, choose one of the following:</p> <ul style="list-style-type: none"> <li>a. Incorporate all solid manure within seventy-two (72) hours of land application; or</li> <li>b. Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon, or digester system; or</li> <li>c. Apply no solid manure with a moisture content of more than 50%; or</li> <li>d. Implement an alternative mitigation measure(s), not listed above.</li> </ul>
2.	<p>If the CAF applies liquid manure, choose one of the following:</p> <ul style="list-style-type: none"> <li>a. Only apply liquid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon, or digester system; or</li> <li>b. Allow liquid manure to stand in the fields for no more than twenty-four (24) hours after irrigation; or</li> <li>c. Apply liquid/slurry manure via injection with drag hose or similar apparatus; or</li> <li>d. Implement an alternative mitigation measure(s), not listed above.</li> </ul>

5.6.4 Swine CAF: An owner/operator of a swine CAF shall comply with the Phase II mitigation measures in Table 4.4.

<b>Table 4.4 – Swine Phase II Mitigation Measure Requirements</b>	
A. Feed: Owners/operators of a swine CAF shall implement at least two (2) of the following feed mitigation measures:	
1.	Use grain with an average particle size diameter between 300-800 microns.
2.	Utilize phase feeding and split-sex feeding programs to more closely match the nutrient requirements of animals.
3.	Implement an alternative mitigation measure(s), not listed above.
B. Housing: Owners/operators of a swine CAF shall implement at least three (3) of the following mitigation measures in each animal housing unit:	
1.	Use a slatted floor system (slatted floors over deep pits or shallow flush alleys), with daily manure removal for shallow flush alleys and weekly removal from deep pits.
2.	Manage pens such that the manure depth in the pen does not exceed twelve (12) inches at any time or point.
3.	Inspect water pipes and troughs and repair leaks at least once every seven (7) days.
4.	Implement an alternative mitigation measure(s), not listed above.
C. Liquid Manure: Owners/operators of a swine CAF that handle manure in a liquid form shall implement at least one (1) of the following mitigation measures:	
1.	Use a phototropic lagoon.
2.	Use an anaerobic treatment lagoon designed in accordance with NRCS Guideline No. 359.
3.	Maintain lagoon pH between 6.5 and 7.5.
4.	Implement an alternative mitigation measure(s), not listed above.
D. Land Application: Owners/operators of a swine CAF who land apply liquid manure to crop land on the facility shall implement one (1) of the following mitigation measures:	
1.	Allow liquid manure to stand in the fields for no more than twenty-four (24) hours after irrigation.
2.	Implement an alternative mitigation measure(s), not listed above.

5.6.5 Layer CAF: An owner/operator of a layer CAF shall comply with the Phase II mitigation measures in Table 4.5.

<b>Table 4.5 – Layer Phase II Mitigation Measure Requirements</b>	
<p><b>A. Feed:</b>                      Owners/operators of a layer CAF shall implement at least one (1) of the following feed mitigation measures:</p>	
1.	Choose one of the following: <ol style="list-style-type: none"> <li>a. Feed according to NRC guidelines; or</li> <li>b. Feed animals probiotics designed to improve digestion according to manufacturer recommendations; or</li> <li>c. Feed animals an amino acid supplemented diet to meet their nutrient requirements; or</li> <li>d. Feed animals feed additives such as amylase, xylanase, and protease, designed to maximize digestive efficiency according to manufacturer recommendations.</li> </ol>
2.	Implement an alternative mitigation measure(s), not listed above.
<p><b>B. Housing:</b>                      Owners/operators of a layer CAF shall implement at least two (2) of the following housing mitigation measures:</p>	
1.	Use drinkers that do not drip continuously.
2.	Inspect water pipes and drinkers and repair leaks daily.
3.	Implement an alternative mitigation measure(s), not listed above.
<p><b>C. Solid Manure/Separated Solids:</b>                      Owners/operators of a layer CAF that handle or store solid litter/manure or separated solids outside the animal housing shall implement at least one (1) of the following mitigation measures:</p>	
1.	Within seventy-two (72) hours of removal from housing, either: <ol style="list-style-type: none"> <li>a. Remove all litter/manure from the facility; or</li> <li>b. Cover litter/manure outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed twenty-four (24) hours per event.</li> </ol>
2.	Implement an alternative mitigation measure(s), not listed above.
<p><b>D. Liquid Manure:</b>                      Owners/operators of a layer CAF that handle manure in a liquid form shall implement at least one (1) of the following mitigation measures:</p>	
1.	Use a phototropic lagoon.
2.	Use an anaerobic treatment lagoon designed in accordance with NRCS Guideline No. 359.
3.	Maintain lagoon pH between 6.5 and 7.5.
4.	Implement an alternative mitigation measure(s), not listed above.

5.6.6 Broiler, Duck, or Turkey CAF: An owner/operator of a chicken broiler, duck, or turkey CAF shall comply with the Phase II mitigation measures in Table 4.6.

<b>Table 4.6 – Broiler, Duck, or Turkey Phase II Mitigation Measure Requirements</b>	
<p><b>A. Feed:</b>            Owners/operators of a broiler, duck, or turkey CAF shall implement at least one (1) of the following feed mitigation measures:</p>	
1.	<p>Choose one of the following:</p> <ul style="list-style-type: none"> <li>a. Feed according to NRC guidelines; or</li> <li>b. Feed animals probiotics designed to improve digestion according to manufacturer recommendations; or</li> <li>c. Feed animals an amino acid supplemented diet to meet their nutrient requirements; or</li> <li>d. Feed animals feed additives such as amylase, xylanase, and protease, designed to maximize digestive efficiency according to manufacturer recommendations.</li> </ul>
2.	Implement an alternative mitigation measure(s), not listed above.
<p><b>B. Housing:</b>            Owners/operators of a broiler or duck CAF shall implement at least four (4) of the following housing mitigation measures:</p> <p>Owners/operators of a turkey CAF shall implement at least five (5) of the following housing mitigation measures:</p>	
1.	Use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues, pursuant to Section 5.4.
2.	Use drinkers that do not drip continuously.
3.	Inspect drinkers at least once every seven (7) days and adjust the height, volume, and location of drinkers if necessary.
4.	Inspect water pipes and drinkers and repair leaks daily.
5.	If the facility houses turkeys in pens, install mounds or berms up gradient to prevent the runoff of storm water into pens.
6.	Implement an alternative mitigation measure(s), not listed above.
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**Table 4.6 – Broiler, Duck, or Turkey Phase II Mitigation Measure Requirements (continued)**

<p>C. Solid Manure/Separated Solids:                  Owners/operators of a broiler, duck, or turkey CAF that handles or stores solid litter/manure or separated solids outside the animal housing shall implement at least one (1) of the following mitigation measures:</p>	
1.	Within seventy-two (72) hours of removal from housing, either: a. Remove all litter/manure from the facility; or b. Cover litter/manure outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed twenty-four (24) hours per event.
2.	Implement an alternative mitigation measure(s), not listed above.
<p>D. Liquid Manure:                  Owners/operators of a broiler, duck, or turkey CAF that handles manure in a liquid form shall implement at least one (1) of the following mitigation measures:</p>	
1.	Use a phototropic lagoon.
2.	Use an anaerobic treatment lagoon designed in accordance with NRCS Guideline No. 359.
3.	Maintain lagoon pH between 6.5 and 7.5.
4.	Implement an alternative mitigation measure(s), not listed above.

6.0 Monitoring Requirements

Owners/operators shall comply with the requirements of Section 6.1 when implementing all applicable Phase II Mitigation Measures in Section 5.6.

6.1 Lagoon Monitoring

Owners/operators using a mitigation measure for a lagoon in their approved emission mitigation plan shall monitor the lagoon for the required parameter(s), as determined by the APCO and EPA, at least once every calendar quarter, with at least 30 days between monitoring tests.

7.0 Administrative Requirements

7.1 Records for Exempt CAFs

An owner/operator claiming exemption pursuant to Section 4.0 shall maintain records on a quarterly basis of the number and type of animals and production group at the facility. Examples of records that may be used to show proof of exemption include, but are not limited to, Dairy Herd Improvement Association records and animal inventories maintained for financial purposes.

## 7.2 General Records for CAFs Subject to Section 5.0 Requirements

7.2.1 Permits: Owners/operators shall maintain copies of all facility permits.

7.2.2 Number of Animals: Owner/operators shall maintain records of the number of animals of each species and production group at the facility on a quarterly basis. Examples of records that may be used include, but are not limited to, Dairy Herd Improvement Association records and animal inventories done for financial purposes.

7.2.3 Owner/operators shall maintain records sufficient to demonstrate compliance with all applicable mitigation measures.

## 7.3 Records for Feed and Silage Mitigation Measures

7.3.1 Feed Content/Feed Additive: Records of feed content, formulation, and quantity of feed additive utilized, sufficient to verify compliance with approved feed content and feed additive mitigation measures. Records may include laboratory test results and other test results.

7.3.2 Feed Processing: Records sufficient to verify that feed was given to animals (for example, put in feed bunks) or disposed of within the time allowed by the approved mitigation measure.

7.3.3 Feed Removal: Records demonstrating that feed is removed within the specified time period.

7.3.4 Feed Storage: Records demonstrating that feed was kept in weatherproof storage for the required period. Records for feed storage shall be required when implementing the Phase II mitigation measures.

7.3.5 Feed Moisture Content: Records for annual testing to determine moisture content of mixed ration food that contains at least 30% by weight of silage. Records for feed moisture content shall be required when implementing the Phase II mitigation measures.

7.3.6 Silage Covers: Records demonstrating that silage was covered, including the thickness of the cover, in compliance with any silage mitigation measures chosen. Examples of records that show compliance include, but are not limited to, invoices demonstrating that silage covers were installed and maintained at the facility, cover thickness, records demonstrating the thickness of the silage cover, and maintenance records for repair or replacement of damaged covers.

- 7.3.7 Silage Pile Bulk Density at Pile Formation: Records of required practices used to ensure adequate bulk density of silage piles and/or measured bulk density of silage piles. Records for silage bulk density shall be required when implementing the Phase II mitigation measures.
- 7.3.8 Silage Pile Formation: Records demonstrating that silage piles were formed in compliance with any silage mitigation measures chosen. Examples of records that show compliance include, but are not limited to, moisture content of silage pile material, records of the length of cut for the crop being harvested, records of silage material delivery date, records that there are no more than six inches of material un-compacted on top of the pile of silage piles. Records for silage pile formation shall be required when implementing the Phase II mitigation measures.
- 7.3.9 Silage Leachate: Records demonstrating that the leachate was collected either by an active or passive system and the system was maintained in a manner approved by the APCO and EPA. Examples of records that show compliance include, but are not limited to, design specification for the system and a maintenance checklist for inspections and repairs.
- 7.3.10 Exposed Silage: Records demonstrating that silage piles are managed such that exposed surface area is in compliance with any silage mitigation measures chosen. Records for exposed silage shall be required when implementing the Phase II mitigation measures.
- 7.3.11 Silage Inoculation: Records demonstrating silage inoculation with either homolactic lactic acid bacteria, propionic acid, benzoic acid, sorbic acid sodium benzoate, or potassium sorbate. Records shall include rate specified by manufacturer and rate applied by operator/owner, date of inoculation and date of silage pile formation completion. Records for silage inoculation shall be required when implementing the Phase II mitigation measures.
- 7.3.12 VOC Emission Control Systems: Source test results, monitoring/inspection logs and maintenance logs.
- 7.3.13 Weatherproof Coverings: Records verifying that any covers used are installed, used, and maintained in accordance with manufacturer recommendations and any applicable standard approved by the APCO and EPA. For covers removed by wind events, an estimate of when the cover was removed and documentation of when the cover was replaced.
- 7.3.14 Alternative Feed or Silage Mitigation Measures: Records sufficient to verify compliance with each approved alternative mitigation measure to the satisfaction of the APCO and EPA.

#### 7.4 Records for Milking Parlor Mitigation Measures

Records verifying that the milking parlor was flushed or hosed immediately prior to, immediately after, or during each milking.

#### 7.5 Records for Freestall/Corral/Animal Housing

7.5.1 Bedding Material: Records of the material(s) used for animal bedding, including the percentage of non-manure. Records for bedding material shall be required when implementing the Phase II mitigation measures.

7.5.2 Clean/Scrape/Flush/Vacuum: Records sufficient to demonstrate that the removal of manure/bedding was performed as required in the approved mitigation measure. This may be a log when owners/operators initial that they performed all applicable practices.

7.5.3 Depth of Manure: Records demonstrating the measurement of the manure depth and measures taken to remove material greater than the amount allowed by the mitigation measure.

7.5.4 Foggers: Records, such as design specifications, demonstrating that foggers used to comply with rule requirements meet the required standards.

7.5.5 Lime, Thymol, and Eugenol: Records of the quantity of material applied and the area over which it was applied. Owners/operators shall also maintain manufacturer's product application recommendations to demonstrate compliance with the recommendations.

7.5.6 Litter Additives: Records, including a copy of the manufacturer's recommendations, which demonstrate litter additives used to comply with rule requirements are administered in accordance with manufacturer's specifications.

7.5.7 Roof Structure/Runoff: Records such as design specifications and maintenance logs demonstrating that any roof runoff structures used to comply with rule are in compliance with applicable standards in NRCS Field Office Technical Guide Code 558 or other applicable standards approved by the APCO and EPA.

7.5.8 Shade Structures: Records, such as design specifications, demonstrating that any shade structures used to comply with rule requirements meet the required standards.

- 7.5.9 Slope/Drainage: Records sufficient to verify that harrowing and sloping of corrals used to comply with rule requirements are implemented as required in the rule.
  - 7.5.10 Vacuum/Land Apply Cattle Waste: Records showing time of vacuuming and time of land application of the vacuumed solids.
  - 7.5.11 VOC Emission Control Systems: Source test results, monitoring/inspection logs and maintenance logs.
  - 7.5.12 Water Pipes, Drinkers, and Water Troughs: Records of inspections performed and repairs completed.
  - 7.5.13 Wet Feed Removal: Records verifying that animal housing was inspected for wet feed after a rain event/inspection and that the wet feed was removed.
  - 7.5.14 Alternative Freestall/Corral/Animal Housing Mitigation Measure: Records that demonstrate compliance with each approved alternative mitigation measure to the satisfaction of the APCO and EPA.
- 7.6 Records for Solid Manure/Separated Solids Outside of Animal Housing
- 7.6.1 Aerated Static Pile: Records of monitoring/inspection logs and maintenance logs.
  - 7.6.2 Removal of Manure/Separated Solids: Records sufficient to verify when the waste was removed from freestall/corral/animal housing and when the waste was either removed from the facility or land incorporated.
  - 7.6.3 Storage of Manure/Separated Solids in an Aerobic/Anaerobic Digester
    - 7.6.3.1 Records, such as design specifications and maintenance logs, demonstrating that any aerobic/anaerobic digesters used to comply with rule requirements meets the standards in NRCS Field Office Technical Guide Code 366 or 365 or other applicable standards approved by the APCO and EPA.
    - 7.6.3.2 Records of the quantity of manure/separated solids, as needed, to comply with the approved Phase II mitigation measure.
  - 7.6.4 VOC Emission Control Systems: Source test results, monitoring/inspection logs and maintenance logs.

- 7.6.5 Weatherproof Coverings: Records verifying that any covers used are installed, used, and maintained in accordance with manufacturer recommendations and any applicable standard approved by the APCO and EPA. For covers removed by wind events, an estimate of when the cover was removed and documentation of when the manure/separated solid piles were re-covered.
- 7.6.6 Alternative Solid Manure/Separated Solids Mitigation Measure: Records that demonstrate compliance with each approved alternative mitigation measure to the satisfaction of the APCO and EPA.

## 7.7 Records for Liquid Manure

### 7.7.1 Lagoons

- 7.7.1.1 Test results of the approved monitoring parameter and records of measures taken to bring the parameter within specified limits.
- 7.7.1.2 Design specifications demonstrating that the lagoon meets the requirements listed in the NRCS Field Office Technical Guide for the lagoon type or other applicable standards approved by the APCO and EPA.

### 7.7.2 Solids Separator System

- 7.7.2.1 Records, such as design specifications and maintenance logs, demonstrating that the solids separator system meets the approved mitigation measure specifications and is operated and maintained as recommended by the manufacturer.
  - 7.7.2.2 Non-Standard Chemicals: Record the quantity of material used. Owners/operators shall also maintain manufacturer's product usage recommendations to demonstrate compliance with the manufacturer's recommendations.
  - 7.7.2.3 Non-Standard Equipment for Solid Separator System: Records, such as design specifications and maintenance logs, demonstrating that the solids separator equipment meets the approved mitigation measure specifications and is operated and maintained as recommended by the manufacturer.
- 7.7.3 VOC Emission Control Systems, including biofilters and other VOC emission control systems: Source test results, monitoring/inspection logs and maintenance logs.

7.7.4 Alternative Liquid Manure Mitigation Measures: Records that demonstrate compliance with the approved alternative mitigation measure, to the satisfaction of the APCO and EPA.

## 7.8 Records for Land Application of Manure

7.8.1 Time to Incorporate Manure: Records indicating the time the manure was applied and when the waste was incorporated into the soil.

7.8.2 Lagoon-Treated or Digester-Treated Manure: Records that demonstrate that the applied manure came from an aerobic lagoon, an anaerobic treatment lagoon or a digester system.

7.8.3 Liquid Waste Standing in Field: Records that demonstrate that liquid manure does not remain in the field for longer than twenty-four (24) hours after application.

7.8.4 Moisture Content of Solid Manure: Records of the moisture content of applied solid manure.

## 7.9 Records Retention

Owners/operators of a CAF subject to the requirements of Section 5.0 shall keep and maintain the required in Sections 7.1 through 7.8.4, as applicable, for a minimum of five (5) years and the records shall be made available to the APCO and EPA upon request.

## 7.10 Source Testing Requirements

7.10.1 Owners/operators shall conduct an initial source test of all VOC control devices and aerated static piles used to comply with rule requirements not later than six (6) months after the date of installation, and at least once every twelve (12) months thereafter unless the APCO, ARB, and EPA determines more frequent testing is required to demonstrate compliance with rule requirements.

7.10.2 Owners/operators using phototropic lagoons as a mitigation measure in their emission mitigation plan shall test lagoons for bacteria concentration, bacteriochlorophyll concentration, or a surrogate parameter determined by the APCO, ARB, and EPA not later than six (6) months after the date of issuance of the permit, and at least once every twelve (12) months thereafter unless the APCO, ARB, and EPA determines more frequent testing is required to demonstrate compliance with rule requirements.

- 7.10.3 Owners/operators using aerobic lagoons as a mitigation measure in their emission mitigation plan shall test lagoons for dissolved oxygen content not later than six (6) months after the date of issuance of the permit, and at least once every twelve (12) months thereafter, unless the APCO, ARB, and EPA determines more frequent testing is required to demonstrate compliance with rule requirements.
- 7.10.4 Owners/operators using mechanically aerated lagoons as a mitigation measure in their emission mitigation plan shall test lagoons for biological oxygen demand within six (6) months after the date of issuance of the permit, and at least once every twelve (12) months thereafter, unless the APCO, ARB, and EPA determines more frequent testing is required to demonstrate compliance with rule requirements.
- 7.10.5 Owners/operators using lagoon pH as a mitigation measure in their emission mitigation plan shall test lagoons for pH within six (6) months after the date of issuance of the permit, and at least once every twelve (12) months thereafter, unless the APCO, ARB, and EPA determines more frequent testing is required to demonstrate compliance with rule requirements.
- 7.10.6 Owners/operators shall test any other parameters determined necessary by the APCO, ARB, and EPA to demonstrate compliance with rule requirements as frequently as determined necessary by the APCO, ARB, and EPA.

## 7.11 Test Methods

Owners/operators shall conduct applicable testing using the following methods or any other alternative test method approved by the APCO and EPA. Test methods referenced shall be the latest approved version.

- 7.11.1 Bacterial Concentration – ASTM D4454 - 85(2009) Standard Test Method for Simultaneous Enumeration of Total and Respiring Bacteria in Aquatic Systems by Microscopy or ASTM D4455 - 85(2009) Standard Test Method for Enumeration of Aquatic Bacteria by Epifluorescence Microscopy Counting Procedure.
- 7.11.2 Bacteriochlorophyll a Concentration – ASTM D3731 – 87 (2004) Standard Practices for Measurement of Chlorophyll Content of Algae in Surface Waters.
- 7.11.3 Biological Oxygen Demand – EPA Method 405.1 (Biochemical Oxygen Demand (5 days, 20°C)).

- 7.11.4 Bulk Packing Density of Silage Piles – Remove representative samples of known volume using a forage probe or other instrument and weighing the samples. Bulk density is the weight of the sample divided by the volume of material removed from the pile. The bulk density shall be determined as the average of at least three representative samples per silage pile.
- 7.11.5 Biofilter Control Efficiency – The control efficiency of a biofilter shall be determined using SCAQMD Method 25.3 (Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources). The SCAQMD Method 25.3 apparatus should be connected to sample directly inside the flux chamber or duct as applicable. Compost emissions are considered as water-soluble sources where the 50 ppm applicability limit of Method 25.3 does not apply. Samples from more than one location may be combined (composited) per SCAQMD Rule 1133.2 Attachment A Section 8.
- 7.11.6 Non-Biofilter Control Efficiency – The control efficiency of a VOC emission control system that is not a biofilter shall be determined using:
- 7.11.6.1 EPA Methods 2 (Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)), 2A (Volume Meters), or 2D (Rate Meters) for measuring flow rates.
- 7.11.6.2 EPA Methods 25, 25A, or 25B for measuring total gaseous organic concentrations at the inlet and outlet of the control device.
- 7.11.6.3 EPA Method 18 or ARB Method 422 shall be used to determine the emissions of exempt compounds.
- 7.11.7 Dissolved Oxygen – EPA Method 360.1 (Oxygen, Dissolved (Membrane Electrode)) or 360.2 (Oxygen, Dissolved (Modified Winkler, Full-Bottle Technique)).
- 7.11.8 Moisture Content for Biofilters – Test Methods for the Examination of Compost and Composting (TMECC) Method 3.09 (Total Solids and Moisture at  $70 \pm 5$  degrees Centigrade).
- 7.11.9 Moisture Content for Silage – Soil, Plant and Water Reference Methods for the Western Region [Third Edition, 2005] Test Method P1.10 (Dry Matter Content - Gravimetric), or American Association of Agricultural and Biological Engineers (ASABE) Standard S358.2, National Forage Testing Association (NFTA) Methods 2.1.3 and 2.1.4, AOAC Methods: 930.15, 934.01, 991.01, and 2001.12.

- 7.11.10 Organic Loading - Standard Methods of the Examination of Water and Wastewater Method 2540 G – Solids.
- 7.11.11 pH – EPA Method 150.2 (pH, Electrometric) or TMECC Method 04.11-A (1:5 Slurry pH)
- 7.11.12 Temperature – EPA Method 170.1 (Temperature – Thermometric)
- 7.11.13 Alternative Test Methods – An operator may use an alternative test method to those listed in Sections 7.11.1 through 7.11.13 for which written approval of the APCO and EPA has been obtained.

## 8.0 Compliance Schedule

- 8.1 Owners/operators of facilities subject to the Regulatory Threshold requirements of this rule under Table 2 shall submit a complete Permit-to-Operate or Authority-to-Construct application for the Phase II requirements in Section 5.6 by April 21, 2011 that complies with all applicable provisions of this rule.
  - 8.1.1 Owners/operators shall comply with all provisions of Phase II requirements on and after 365 days from the Authority-to-Construct or Permit-to-Operate issuance date, whichever is earlier.
  - 8.1.2 Owners/operators of Large CAFs shall comply with the Phase I requirements in Section 5.5 until demonstrating full compliance with Phase II requirements in Section 5.6.
- 8.2 Owners/operators of new or modified facilities that become subject to the Regulatory Threshold requirements of this rule under Table 2 shall comply with the Phase II requirements of Section 5.6.