# San Joaquin Valley Air Pollution Control District

www.valleyair.org

# Phase II Rule 4570 Permit Application Form

## Dairy Confined Animal Feeding (CAF) Mitigation Measures
## Large and Medium CAFs (500 Milk Cows Or More)

Facility Name: _____

Facility Location: _____

Mailing Address: _____

Phone No.: (_____) _____ - _____ Cell Phone No.: (_____) _____ - _____

Owner/Operator: _____ Title: _____

Signature: _____ Date: _____

**Instructions**

1. Please completely fill out the tables included on the following pages of this form indicating the mitigation measures that you will be utilizing to comply with Rule 4570.

2. **If your facility at this location has submitted an application along with the filing fees for the initial Permit to Operate, and no Permit to Operate has been issued, no additional payment is required at this time**. Filing fees of $87 per permit unit (i.e., cow milking parlor, cow housing, liquid manure handling, solid manure handling, feed and storage handling) and hourly processing fees not to exceed 10 hours unless notified, will be invoiced at the time the permit is issued.

3. Does your facility have any existing permits with the District at this location? If yes, please provide your facility ID # if known: _____

4. Mitigation measures in the following tables are categorized by type of operation. Carefully read each section to determine how many of the options to select within each category.

FOR APCD USE ONLY:

| DATE STAMP: | FILING FEE<br>RECEIVED: $_____ CHECK #: _____<br><br>DATE PAID: _____<br><br>PROJECT #: _____ FACILITY ID: _____ |
|---|---|

Northern Regional Office * 4800 Enterprise Way * Modesto, California 95356-8718 * (209) 557-6400 * FAX (209) 557-6475
Central Regional Office * 1990 East Gettysburg Avenue * Fresno, California 93726-0244 * (559) 230-5900 * FAX (559) 230-6061
Southern Regional Office * 34946 Flyover Court * Bakersfield, California 93301-9725 * (661) 392-5500 * FAX (661) 392-5585

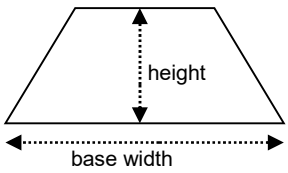
## Dairy Feed and Silage Information

Please fill out the Feed and Silage information in the section below if you have not provided it previously to the District.

**Feed & Silage Information** ☐ Check here if this section does not apply

What methods are used to store feed? (check all that apply) ☐ Covered Feed Storage/Commodity Barns ☐ Covered Silage Piles (except the face) ☐ Completely Uncovered Silage Piles ☐ Ag Bags ☐ Dry Grain Tanks ☐ Silos ☐ Other _____

**If silage piles are used**, complete the following table:

| Feed type (e.g. corn, alfalfa) | Number of Piles (Max # in one calendar year) | Maximum Pile Dimensions   height (ft), base width (ft) | How many piles of this type will have an open face at any given time (maximum number)? |
|---|---|---|---|
| | | _____ ft, _____ ft | |
| | | _____ ft, _____ ft | |
| | | _____ ft, _____ ft | |
| | | _____ ft, _____ ft | |
| | | _____ ft, _____ ft | |
| | | | |

## Rule 4570 Mitigation Measures

**Feed Mitigation Measures**

**Dairy owners/operators are required to implement the following four feed mitigation measures:**

- Feed according to National Research Council (NRC) guidelines.
- 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.
- Begin feeding total mixed rations within two (2) hours of grinding and mixing rations.
- Store grain in a weatherproof storage structure or under a weather proof covering from October through May.

**Dairy owners/operators must also select at least one of the following feed mitigation measures:**

☐ Feed steam-flaked, dry rolled, cracked or ground corn or other ground cereal grains.
☐ Remove uneaten wet feed from feed bunks within twenty-four (24) hours after the end of a rain event.
☐ For total mixed rations that contain at least 30% by weight of silage, feed animals total mixed rations that contain at least 45% moisture.
☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures supplemental application form.*

**Silage Mitigation Measures**

**Do not feed silage** ☐ **Not Applicable**
**Do not store silage** ☐ **Not Applicable**

**Dairy owners/operators must select at least one of the following silage mitigation measures:**

☐ Utilize a sealed feed storage system (e.g., Ag-Bag) for silage.

☐ Silage Pile Management - Selection of this measure requires multiple measures to be selected as follows:

**The following measure is required to be implemented.**

- 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 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 72 hours of last delivery of material to the pile**.**

**Must also implement one from the following (a, b, or c):**

**a.** 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 7.10 of Rule 4570 (http://www.valleyair.org/rules/1ruleslist.htm#reg4).

**b.** 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 (one available on District website, http://www.valleyair.org/General_Info/AGLoader.htm).

**c.** Incorporate the following practices when creating silage piles:

- Harvest silage crop at ≥ 65% moisture for corn; and ≥ 60% moisture for alfalfa/grass and other silage crops; and
- Manage silage material delivery such that no more than six (6) inches of materials are un-compacted on top of the pile.
- 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 | ≤ 1/2 in | N/A |
| Processed Corn <35% dry matter | ≤ 3/4 in | 1 – 4 mm |
| Alfalfa/Grass | ≤ 1.0 in | N/A |
| Wheat/Cereal Grains/Other | ≤ 1/2 in | N/A |

**Must select two measures from the following d, e, or f:**

**d.** ☐ Manage exposed silage (select only 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.

ii. ☐ Manage multiple uncovered silage piles such that the total exposed surface area of all silage piles is less than 4,300 square feet.

**e.** ☐ Maintain silage working face: (Must implement one of the following):

i. Use a shaver/facer to remove silage from the silage pile.

ii. Maintain a smooth vertical surface on the working face of the silage pile.

**f.** ☐ Silage Additives (select only one of the following):

i. ☐ Inoculate silage with homolactic 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

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.

ii. ☐ 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.

☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures supplemental application form.*

**Milk Parlor Mitigation Measures**

**Dairy owners/operators must select at least one of the following milk parlor mitigation measures:**

☐ Flush or hose milk parlor immediately prior to, immediately after, or during each milking.

☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures form.*

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| **Freestall Barn Mitigation Measures** | **Dairy owners/operators with freestall barns are required to implement the following freestall barn mitigation measures:**<br>• 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.<br>• **Must select one of the following two mitigation measures:**<br>☐ Flush, scrape or vacuum freestall flush lanes immediately prior to or after, or during each milking.<br>☐ Flush or scrape freestall flush lanes at least three (3) times per day.<br>**Dairy owners/operators with freestall barns must also select at least one of the following mitigation measures:**<br>☐ 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).<br>☐ For a LARGE dairy only (1000 milk cows or larger) - 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.<br>☐ For a MEDIUM dairy only (500 to 999 milk cows) – 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.<br>☐ Have no animals in exercise pens or corrals at any time.<br>☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures supplemental application form.*<br>☐ **Not Applicable – No freestall barns** |
| **Corral Mitigation Measures** | **Dairy owners/operators with corrals are required to implement the following six mitigation measures for each corral where animals have been housed in the last 30 days:**<br>• 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 feed along the corral side of the feedlane for heifers.<br>• Inspect water pipes and troughs and repair leaks at least once every seven (7) days.<br>• **Must implement one of the following mitigation measures:**<br>-Clean manure from corrals at least four (4) times per year with at least sixty (60) days between cleaning.<br>-Clean corrals at least once between April and July and at least once between September and December.<br>• **Must select one of the following two mitigation measures:**<br>☐ Scrape, vacuum or flush concrete lanes in corrals at least once every day for mature cows and every seven (7) days for support stock.<br>☐ Clean concreted lanes such that the depth of manure does not exceed twelve (12) inches at any point or time.<br>• **Must implement one of the following three mitigation measures:**<br>-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.<br>-Maintain corrals to ensure proper drainage preventing water from standing more than forty-eight hours.<br>-Harrow, rake, or scrape pens sufficiently to maintain a dry surface.<br>• **<u>If the facility has shade structures you must select from one of the following mitigation measures</u>:**<br>☐ Install shade structures such that they are constructed with a light permeable roofing material.<br>☐ Install all shade structures uphill of any slope in the corral.<br>☐ Clean manure from under corral shades at least once every fourteen (14) days, when weather permits access into the corral.<br>☐ Install shade structure so that the structure has a North/South orientation.<br>**Dairy owners/operators with corrals must also select at least one of the following mitigation measures:**<br>☐ 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.<br>☐ 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.<br>☐ Use lime or a similar absorbent material in the corral according to the manufacturer's recommendation to minimize moisture in the corrals<br>☐ Apply thymol to the corral soil in accordance with the manufacturer's recommendation.<br>☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures supplemental application form.*<br>☐ **Not Applicable – No open corrals** |

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| **Land Application Mitigation Measures** | **Dairy owners/operators which land apply solid or liquid manure must select the following mitigation measures:**<br>**If the CAF applies solid manure, select one of the following:**<br>☐ Incorporate all solid manure within seventy-two (72) hours of land application.<br>☐ Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon or digester system.<br>☐ Apply no solid manure with a moisture content of more than 50%.<br>☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures supplemental application form.*<br>☐ **Not Applicable – No application to land**<br><br>**If the CAF applies liquid manure, select one of the following:**<br>☐ Only apply liquid manure that has been treated with an anaerobic or aerobic treatment lagoon, aerobic lagoon, or digester system.<br>☐ Allow liquid manure to stand in the fields for no more than twenty-four (24) hours after irrigation.<br>☐ Apply liquid/slurry manure via injection with drag hose or similar apparatus.<br>☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures supplemental application form.*<br>☐ **Not Applicable – No application to land** |
| **Liquid Manure Mitigation Measures** | **Dairy owners/operators which handle liquid manure must select at least one of the following liquid manure mitigation measures:**<br>☐ Use phototropic lagoon. (Please note: Testing per Section 7.10 of Rule 4570 will be required.)<br>☐ Use an anaerobic treatment lagoon designed according to NRCS Guideline No. 359.<br>☐ Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon.<br>☐ Maintain lagoon pH between 6.5 and 7.5. (Please note: Testing per Section 7.10 of Rule 4570 will be required.)<br>☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures supplemental application form.*<br>☐ **Not Applicable – No liquid manure handled** |
| **Solid Manure Mitigation Measures (LARGE CAF ONLY)** | **THIS SECTION APPLIES TO ONLY LARGE CAF 1000 MILKING COWS OR MORE.**<br>**Dairy owners/operators which handle solid manure or separated solids stored outside the animal housing must select at least one of the following solid or separated solids mitigation measures:**<br>**Solid Manure -**<br>☐ Within seventy-two (72) hours of removal from housing, either (must implement a or b):<br>a. Remove dry manure from the facility<br>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.<br>**Separated Solids -**<br>☐ Within seventy-two (72) hours of removal from the drying process, either (must implement a or b):<br>a. Remove separated solids from the facility<br>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.<br>☐ Implement an alternative mitigation measure(s), not listed above. *Please provide details on an attached Alternate Mitigation Measures supplemental application form.*<br>☐ **Not Applicable – No solid manure handled outside the animal housing** |