AIR POLLUTION CONTROL DISTRICT

LARGE CONFINED ANIMAL FACILTY EMISSIONS MITIGATION PLAN
BEEF FEEDLOT

Reference Table 2.1 of Rule 217

Name of Business _____

Owner/ Operator _____

Mailing Address _____

Location Address _____

Telephone Number _____ Cellular Number _____

E-mail Contact _____

Total Animal Head Count

A. Feed- An owner/operator of a beef feedlot CAF shall implement at least two (2) of the following feed mitigation measures:

Choose two of the following:

☐ a. Feed according to National Research Council (NRC) guidelines.

☐ b. Feed steam-flaked, dry rolled, cracked or ground corn or other steam-flaked, dry rolled, cracked or ground cereal grains.

☐ c. Remove uneaten wet feed from feed bunks within twenty-four (24) hours after the end of a rain event.

☐ d. Implement an alternative mitigation measure(s), not listed above - subject to approval by the APCD.

B. Silage - An owner/operator of a beef feedlot CAF that feeds silage shall implement at least one (1) of the following silage mitigation measures:

Choose one of the following:

☐ 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:

Required 1a. 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.

Choose one of the following:

☐ 1b. 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 G; or

☐ 1c. 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

B. Silage - Continued

☐ 1d. Incorporate all of the following practices when creating silage piles:

i. Harvest silage crop at ≥65% moisture for corn; and ≥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	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

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:

☐ 1e. 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.

☐ 1f. Maintain silage working face ***(select one of the following)*** :

- ☐ i. Use a shaver/facer to remove silage from the silage pile; or
- ☐ ii. Maintain a smooth vertical surface on the working face of the silage pile.

☐ 1g. Silage Additives ***(select one of the following***):

- ☐ 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
- ☐ 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
- ☐ 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.

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

☐ 3. Implement an alternative mitigation measure(s), not listed above - subject to approval by the APCD.

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.):

Required 1a. Scrape corrals twice a year with at least ninety (90) days between cleanings, excluding the removal of in-corral mounds

1b. Clean and remove manure from corrals every eighteen (18) months, including the removal on in-corral mounds.

C. Housing - Continued

Required 2. Inspect water pipes and troughs and repair leaks at least once every seven (7) days.

Required 3. *Choose one of the following:*

☐ a. Maintain corrals to ensure proper drainage preventing water from standing more than forty-eight (48) hours; unless standing water is the result of a rain event; or

☐ b. Harrow, rake, or scrape corrals sufficiently to maintain a dry surface, unless the corrals have not held animals in the last thirty (30) days; except moisture may be permitted in areas underneath shade structures or where animals commonly congregate in large groups.

Required 4. If the CAF has shade structures, they must choose with 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.

☐ 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.

☐ 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 - subject to approval by the APCD.

D. Solid Manure/Separated Solids - 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:

Choose one of the following:

☐ Within 72 hours of removal from animal housing, either remove dry manure from the facility or, during those months where rain occurs, 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

☐ Manage moisture content of manure to less than 50%; or

☐ Implement an alternative mitigation measure(s), not listed above - subject to approval by the APCD.

E. Liquid Manure - 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 - subject to approval by the APCD.

F. Land Application: 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:

Required If the CAF applies solid manure, choose one of the following:

- ☐ a. Incorporate all solid manure within seventy-two (72) hours of land application; or
- ☐ b. Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon, or digester system; or
- ☐ c. Apply no solid manure with a moisture content of more than 50%; or
- ☐ d. Implement an alternative mitigation measure(s), not listed above - subject to approval by the APCD.

Required If the CAF applies liquid manure, choose one of the following:

- ☐ a. Only apply liquid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon, or digester system; or
- ☐ b. Allow liquid manure to stand in the fields for no more than twenty-four (24) hours after irrigation; or
- ☐ c. Apply liquid/slurry manure via injection with drag hose or similar apparatus; or
- ☐ d. Implement an alternative mitigation measure(s), not listed above - subject to approval by the APCD.

I hereby certify that: I am the owner/operator of the facility on which this plan will be implemented; I have a copy of Rule 217 and I shall comply with the listed mitigation measures.

Signature _____ Date _____