

NOV 15 2017

Ben Pitman
Pitman Family Farms
1075 North Ave
Sanger, CA 93657

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-8950
Project Number: S-1163804

Dear Mr. Pitman:

Enclosed for your review and comment is the District's analysis of Pitman Family Farms's application for an Authority to Construct for the modification of an existing broiler chicken ranch to increase the size of the flock from 249,200 chickens to 654,200 chickens by constructing 12 new broiler chicken houses, which will each have capacity to house 33,750 chickens, and to add conditions for compliance with District Rule 4570, at 39200 Road 80, Dinuba, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Ramon Norman of Permit Services at (559) 230- 5909.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:rn

Enclosures

cc: Tung Le, CARB (w/ enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Increase Broiler Ranch Flock Size and Construct New Broiler Houses

Facility Name: Pitman Family Farms Date: November 6, 2017
Mailing Address: 1075 North Ave Engineer: Ramon Norman
Sanger, CA 93657 Lead Engineer: Jerry Sandhu
Contact Person: Ben Pitman
Telephone: (559) 904-0484
E-Mail: ben@maryschickens.com or ben@pitmanfarms.com
Application #s: S-8950-1-0 & -2-0
Project #: S-1163804
Deemed Complete: June 29, 2017

I. Proposal

The primary business of Pitman Family Farms is the production of poultry to provide meat for human consumption. Pitman Family Farms has requested Authority to Construct (ATC) permits to increase the size of the flock at their existing broiler ranch from 249,200 broiler chickens in 17 broiler houses to 654,200 broiler chickens in 29 broiler houses. Although the existing broiler ranch is not currently subject to District permits because the number of chickens kept at the broiler ranch is less than the District permitting threshold of 400,000 chickens, the proposed increase in the flock size at the broiler ranch will cause the broiler ranch to become subject to District permitting requirements; therefore, ATC permits are required for the proposed increase in the flock size. The draft ATC permits are included in Appendix A.

To increase the flock size at the boiler ranch Pitman Family Farms is proposing to construct 12 new mechanically ventilated "free-range" broiler houses. Each new broiler house will be 54 ft x 500 ft and will each have the capacity to house a maximum of 33,750 broiler chickens. The areas and maximum number of birds that will be kept in the existing and proposed broiler houses are shown in the tables below.

Pre-Project Broiler House Capacities (Permit-Exempt)						
House #	# of Houses	Length (ft)	Width (ft)	House Area (ft ²)	Bird Space ft ² /bird	Max # of Birds per House
Existing: # 1	1	280	40	11,200	0.8	14,000
Existing: # 2 - 5	4	252	40	10,080	0.8	12,600
Existing: # 6 - 17	12	308	40	12,320	0.8	15,400
Total Houses	17	Total Area		199,360	Max Total Flock Size	249,200

Post-Project Broiler House Capacities (ATC S-8950-1-0)						
House #	# of Houses	Length (ft)	Width (ft)	House Area (ft ²)	Bird Space ft ² /bird	Max # of Birds per House
Existing: # 1	1	280	40	11,200	0.8	14,000
Existing: # 2 - 5	4	252	40	10,080	0.8	12,600
Existing: # 6 - 17	12	308	40	12,320	0.8	15,400
Proposed New: # 18-29	12	500	54	27,000	0.8	33,750
Total Houses	29	Total Area		523,360	Max Total Flock Size	654,200

The manure handling operation must also be modified for the increase in the amount of manure handled that will result from the increase in the flock size at the broiler ranch. Therefore, ATC S-8950-2-0 will be issued for the increase in manure handled from increasing the flock size from 249,200 birds to 654,200 birds.

In addition, based on its present capacity of 249,200 broiler chickens, the broiler ranch is currently exempt from the requirements of District Rule 4570 (Confined Animal Facilities, amended October 21, 2010). Pursuant to Section 4.0 of District Rule 4570, the applicability threshold for chicken facilities is 400,000 birds, and this threshold will be exceeded due to the proposed increase in flock size. Therefore, as part of this ATC application, Pitman Family Farms is proposing to implement mitigation measures required to comply with District Rule 4570.

The existing broiler ranch includes an existing diesel-fired incinerator for disposal of poultry mortality from the ranch. After the ATC permits for the proposed increase in the flock size at the broiler ranch have been issued, the existing incinerator will be issued a grandfathered Permit to Operate (PTO S-8950-3-0) under a separate project (Project S-1170548). The applicant also originally proposed to install three new incinerators to dispose of poultry carcasses. However, the incinerators will not be installed until after completion of the increase in flock size at the broiler ranch and will be processed under a separate project (Project S-1172835).

II. Applicable Rules

Rule 1070	Inspections (12/17/92)
Rule 2010	Permits Required (12/17/92)
Rule 2020	Exemptions (12/18/14)
Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4550	Conservation Management Practices (CMP) (8/19/04)
Rule 4570	Confined Animal Facilities (CAF) (10/21/10)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA
Guidelines

III. Project Location

The facility is located at 39200 Road 80, Dinuba, CA in Tulare County (APNs 030-009-025 and 030-008-013). The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The primary function of a broiler ranch is to raise chickens to provide meat for human consumption. The production cycle of broilers is divided into two phases: brooding and grow-out. The brooding phase begins when day-old chicks are placed in a heated section of a broiler house known as the brood chamber. The brood chamber is maintained at over 100 °F when the birds are a day or two old. During the birds' first few weeks of growth, the temperature of the brood chamber is gradually decreased. Once the birds need floor space, the remainder of the house is opened and the chicks are fed out to market weight.

The length of the grow-out phase ranges from 28 to 63 days, depending on the size of the bird desired. Broilers are produced to meet specific requirements of the customer, which can be a retail grocery store, a fast-food chain, or an institutional buyer. For broilers, the typical grow-out period is 49 days, resulting in an average weight of 4.5 to 6.0 pounds. For producing roasters weighing 6 to 8 pounds, the grow-out period will be up to 63 days. Broiler houses are operated on an "all in-all out" basis and require time for cleaning and repair between flocks. For broilers, five to six flocks per house per year is typical. The number of flocks per year will be lower for roasters.

Broiler Housing

The most common type of housing for broilers, roasters, and breeding stock is enclosed housing with a compacted soil floor covered with dry bedding. Dry bedding (litter) can be sawdust, wood shavings, rice hulls, chopped straw, peanut hulls, or other products, depending on availability and cost. The litter absorbs moisture from the manure excreted by the birds.

The 17 existing broiler houses are naturally ventilated. Naturally ventilated broiler houses have open sidewalls with curtains that are opened and closed to control the house ventilation rate. The 12 new proposed broiler houses will be mechanically ventilated. Mechanical ventilation is typically provided using a negative-pressure system, with exhaust fans drawing air out of the house, and fresh air returning through ducts around the perimeter of the roof. The ventilation system uses exhaust fans to remove moisture and harmful gases during the winter season and excess heat during the summer. Advanced systems use thermostats and timers to control the exhaust fans. Many mechanically ventilated houses have side curtains that can be opened during electrical power outages or in warm weather for additional ventilation.

Each proposed new broiler house will be partially enclosed and will be equipped with thirteen 54" ventilation fans each with a rating of 1 electric hp, three 36" side wall fans each with a rating of ½ electric hp, and four 24" circulating fans each with a rating of 0.5 electric hp, for a total of 16.5 electric hp per each proposed new broiler house. This broiler chicken ranch raises free-range chickens and each existing and proposed new house will have openings along one side; the proposed houses will have a 5 ft wide by 2 ft high opening every 50 feet. These openings allow for free chicken movement between inside and outside of the houses. Thus, the houses are served by a mechanical ventilation system but due to the "free-range" openings, the houses are not fully enclosed.

Broiler Manure Management

Two kinds of manure are removed from broiler houses: litter and cake. Litter is a mixture of bedding and manure. Cake is a compacted and concentrated mixture of manure and litter that usually builds up on the surface of the litter around waterers and feeders, where much of the manure is deposited.

Broiler Manure Collection

Broiler houses are partially cleaned between flocks to remove cake and fully cleaned out less often. The remaining litter may be "top dressed" with an inch or so of new bedding material. The litter (bedding and manure) is typically completely cleaned out annually. When the broiler house is completely cleaned out, the litter is typically removed with a front-end loader. When the house is cleaned, the equipment (including slats) is removed from the house to allow a front-end loader to push all of the manure to the center litter section of the house. Then the front-end loader places the mixture of manure and litter into a spreader for land application. A thorough cleaning after each flock removes pathogens that could be transferred to the next flock. After removal of all organic matter, the house is disinfected.

Factors that affect emissions from broiler houses include the moisture content of the manure, time the manure is present in the broiler house, and the ventilation rate. Manure excreted by the birds emits ammonia as the manure dries out. Since broiler manure storage is integrated with the broiler house, ammonia emissions continue throughout the year.

The ventilation rate affects the amount of ammonia and particulate matter carried out of the broiler house. During the growth of the flock, continuous airflow removes ammonia and other gases reducing the moisture content of the litter over that of freshly excreted manure. Continuous airflow results in lower nitrogen content of the litter.

Broiler Manure Storage

Once broiler manure has been collected, it is either immediately applied to cropland or stored for later land application. Because cake removal occurs after each grow-out cycle, cake storage is a necessity. Traditionally, cake from broiler production facilities has been stored in uncovered stockpiles until conditions permitted land application. However, water quality concerns have led to the increased use of storage structures known as litter sheds for cake storage. Water quality concerns also have led to the recommendation that cake not stored in litter sheds be placed in well-drained areas and covered to prevent runoff and leaching. However, covering of stockpiles of cake is rare. Because of the larger volume involved, broiler manure and litter from a total facility clean-out is usually stored in open or covered stockpiles if immediate land application is

not possible. Because of cost, litter sheds generally are sized only to provide capacity for cake storage. To avoid long-term storage of broiler manure and litter in stockpiles, the timing of total facility clean-outs has been shifting to early and mid-spring.

Pitman Family Farms hauls litter from the broiler ranch off-site, possibly to land for a neighboring farm, and the litter from broiler ranch will continue to be managed in the same way.

V. Equipment Listing

Proposed Modification:

Increase the maximum flock size at the broiler ranch from 249,200 broiler chickens in 17 broiler houses to 654,200 broiler chickens in 29 broiler houses, allow an increase in the manure handled as a result of the increase in the flock size, and implement mitigation measures required for compliance with District Rule 4570.

Pre-Project Broiler Ranch Houses

Total Capacity: 249,200 Broilers in 17 existing broiler houses with electric fans totaling 48.5 hp

- One 280' L X 40' W naturally ventilated broiler house with capacity for 14,000 broilers
- Four 252' L X 40' W naturally ventilated broiler houses each with capacity for 12,600 broilers
- twelve 308' L X 40' W naturally ventilated broiler houses each with capacity for 15,400 broilers

Post-Project Broiler Ranch Houses

Total Capacity: 654,200 Broilers in 29 houses with electric fans totaling 246.5 hp

- 17 existing naturally ventilated broiler houses with capacity for 249,200 broilers with electric fans totaling 48.5 hp
- Twelve proposed new 500' L X 54' W mechanically ventilated broiler houses each with capacity for 33,750 broilers, each including electric fans totaling 16.5 hp

ATC Equipment Description:

- S-8950-1-0: MODIFICATION OF BROILER CHICKEN RANCH CONSISTING OF 249,200 BROILERS; 17 NATURALLY VENTILATED BROILER HOUSES, INCLUDING ELECTRIC FANS TOTALING 48.5 ELECTRIC HP; INCREASE BROILER CHICKENS TO 654,200 AND CONSTRUCT 12 NEW MECHANICALLY VENTILATED BROILER HOUSES (33,750 BIRDS EACH); IMPLEMENT MITIGATION MEASURES FOR COMPLIANCE WITH DISTRICT RULE 4570
- S-8950-2-0: MODIFICATION OF SOLID MANURE HANDLING SYSTEM WITH LITTER HAULED OFFSITE; ALLOW FOR AN INCREASE IN SOLID MANURE HANDLED DUE TO THE INCREASE IN BROILER CHICKEN FLOCK SIZE AUTHORIZED BY AUTHORITY TO CONSTRUCT (ATC) S-8950-1-0; IMPLEMENT MITIGATION MEASURES FOR COMPLIANCE WITH DISTRICT RULE 4570

Post-Project Equipment Description:

S-8950-1-0: BROILER CHICKEN RANCH CONSISTING OF 654,200 BROILERS; 17 NATURALLY VENTILATED POULTRY HOUSES AND 12 MECHANICALLY VENTILATED POULTRY HOUSES, INCLUDING ELECTRIC FANS TOTALING 246.5 HP

S-8950-2-0: SOLID MANURE HANDLING SYSTEM WITH LITTER HAULED OFFSITE

VI. Emission Control Technology Evaluation

Broiler Houses

The principal pollutants emitted from poultry houses are Particulate Matter (PM), Volatile Organic Compounds (VOC), and ammonia (NH₃), which are emitted through the ventilation system. Factors that affect emissions from broiler houses include the moisture content of the litter, the pH, the ventilation rate, the temperature, and the amount of manure and length of the time the manure is present in the broiler house.

The ventilation rate affects the amount of PM, VOC, and NH₃ carried out of the broiler house. During the growth of the flock, continuous airflow removes NH₃ and other gases and reduces the moisture content of freshly excreted manure. The constant volatilization and removal of NH₃ from the broiler houses results in lower nitrogen content of the litter.

The applicant will implement mitigation measures to reduce VOC as required by District Rule 4570 as well as adding acidifying litter amendments with all birds fed in accordance with National Research Council (NRC) and all mortality removed from houses at least once per day. Many District Rule 4570 mitigation measures may also reduce NH₃ emissions. However, because of limited data, at this time this District cannot accurately apply control efficiencies to calculate the NH₃ emissions reductions attributed to the mitigation measures at this time.

Manure Handling

The applicant is not proposing to modify the existing manure handling operation except to increase the amount of manure handled.

VII. General Calculations

A. Assumptions

- Although the existing broiler ranch is not currently subject to District permitting requirements, it is an existing facility; therefore, for purposes of this evaluation the Pre-Project Potential to Emit (PE1) for the broiler ranch permit units and the Stationary Source Pre-Project Potential to Emit (SSPE1) for the broiler ranch will be calculated to establish the pre-project baseline for emissions of affected pollutants from the existing facility.

- The emission factors for poultry are on a per bird basis, and account for multiple sources of emissions. That is, emissions from the broiler housing and solid manure handling are included in the per bird emission factors. Therefore, emissions from the broiler housing and solid manure handling permits are calculated together.
- Emissions from solid manure/litter are considered negligible once the manure/litter is dried. Additionally, the applicant indicates that no manure is stored onsite outside of the broiler houses. Therefore, all emissions will be attributed to the broiler houses.
- There will be no liquid manure management at the broiler ranch.
- For emission calculations, the broiler chicken ranch will be assumed to operate at its maximum capacity. Post-Project Potential to Emit (PE2) for the broiler chicken ranch will be calculated based on the maximum number of birds after the proposed increase in flock size – 654,200 broiler chickens.
- A maximum of 33,750 broiler chickens can be kept in each of the 12 proposed new broiler houses.
- Each broiler house operates independently and has separate exhaust ventilation. Therefore, each hen house is a separate emissions unit.
- Broiler chicken ranches produce approximately 0.044 lb of litter per bird per day.¹ Therefore, the amount of litter that is currently handled at the existing broiler ranch and that will be handled after the increase in flock size is approximately as follows:
 - Litter handled at existing broiler ranch (249,200 birds): $249,200 \text{ birds} \times 0.044 \text{ lb-litter/bird-day} \times 365 \text{ day/yr} \times 1 \text{ ton}/2,000 \text{ lb} = 2,001 \text{ ton-litter/year}$
 - Litter handled after proposed increase in flock size (654,200 birds): $654,200 \text{ birds} \times 0.044 \text{ lb-litter/bird-day} \times 365 \text{ day/yr} \times 1 \text{ ton}/2,000 \text{ lb} = 5,253 \text{ ton-litter/year}$
 - Increase in litter handled as a result of the proposed increase in flock size: $5,253 \text{ ton-litter/year} - 2,001 \text{ ton-litter/year} = 3,252 \text{ ton-litter/year}$
- PE2 for VOC will be calculated using controls applied for implementing mitigation measures for compliance with District Rule 4570.
- All District Rule 4570 Phase II mitigation measures are expected to result in VOC emission reductions. A conservative 10% control efficiency will be applied to all mitigation measures unless specifically noted.
- District Rule 4570 Phase II feed mitigation measures are intended to reduce VOC emissions by improving the chickens' digestion of nutrients. These emissions reductions will take place in the broiler houses. Therefore, although the facility will not be required to have a feed storage and handling permit because of negligible emissions from the feed

¹ United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Agricultural Waste Management Field Handbook (AWMFH), Chapter 4 – Agricultural Waste Characteristics, Table 4-16 Manure as Transferred for Utilization. <https://www.wcc.nrcs.usda.gov/ftpref/wntsc/AWM/handbook/ch4.pdf>

itself, VOC control efficiency for the feed mitigation measures will be applied to the broiler VOC emission factor.

- The Rule 4570 mitigation measures are expected to result in a decrease in NH₃ emissions. However, due to limited data, NH₃ emission reductions for these measures will not be quantified at this time.
- For New and Modified Source (NSR) purposes (public notice and BACT applicability), when calculating the potential to emit from the new broiler houses, it will conservatively be assumed 100% of emissions are from broiler housing for each emission factor.
- The Final Project Report on Southeastern Broiler Gaseous and Particulate Matter Emissions Monitoring (December 2009) by Iowa State University and University of Kentucky² gives a ratio of 0.40 for PM₁₀/Total Suspended Particulate (TSP) and a ratio of 0.093 for PM_{2.5}/PM₁₀. Based on this information, the following relationships for total PM, PM₁₀, and PM_{2.5} will be assumed for purposes of this evaluation:
 - PM is 250% (1/0.40) of PM₁₀
 - PM_{2.5} is 10% of PM₁₀
- Minimum broiler house ventilation rate: 1,830 cfm (for new chicks on a cold night)³
- The facility currently has an existing incinerator onsite that is used to dispose of chicken carcasses and that is not currently subject to a District permit, but will require a permit as a result of this project. Therefore, the potential to emit (PE) for this incinerator will be included in the Post-Project Stationary Source Potential to Emit (SSPE2) for this project. The existing incinerator will be issued a grandfathered District permit under Project S-1170548.

B. Emission Factors

Broiler Houses (Permit Unit S-8950-1)

The emission factors for a broiler ranch are on a per head basis and account for emissions from the broiler housing and solid manure handling in one emission factor for each pollutant.

The PM₁₀ emission factor for the broiler houses is based on the study "Particulate Matter and Ammonia Emission Factors for Tunnel-Ventilated Broiler Production Houses in the Southern U.S."⁴ (2003) by R.E. Lacey, J.S. Redwine, and C.B. Parnell, Jr. The uncontrolled VOC and NH₃ emission factors for the broiler houses were based on the study "*Final Report: Quantification of Gaseous Emissions from California Broiler Production Houses*" (May 6, 2005)³. In this study source tests were conducted on mechanically ventilated broiler houses

² http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1006&context=abe_eng_reports

³ Summers, M.D. (2005) FINAL REPORT: Quantification of Gaseous Emissions from California Broiler Production Houses. Report to the California Department of Food and Agriculture, May 6, 2005. Available at: <https://www.arb.ca.gov/ag/caf/poulemisrpt.pdf>

⁴ Lacey R., Redwine J.S., Parnell Jr C.B. (2003) Particulate Matter and Ammonia Emission Factors for Tunnel-Ventilated Broiler Production Houses in the Southern U.S. Transactions of ASAE2003;46(4):1203-1214. Available at: <http://caages.tamu.edu/Publications/Publications/PU00007.pdf>

during the spring and fall of 2004. The participants in the project included: AIRx Testing; California ARB; California Department of Food and Agriculture; California Poultry Federation; Foster Farms; & University of California, Davis - Animal Science

The uncontrolled emission factors for broilers are shown in the table below:

Uncontrolled Emission Factors for Broiler Ranch		
Pollutant	EF, lb/bird-year	Source
PM ₁₀	0.02	R.E. Lacey et al (2003) "Particulate Matter and Ammonia Emission Factors for Tunnel-Ventilated Broiler Production Houses in the Southern U.S."
VOC	0.025	Summers, M.D. (2005) "Quantification of Gaseous Emissions from California Broiler Production Houses"
NH ₃	0.0958	Summers, M.D. (2005) "Quantification of Gaseous Emissions from California Broiler Production Houses"

The increase in the number of birds at the broiler ranch will cause the facility to become subject to District Rule 4570. The following table summarizes the mitigation measures that the facility has proposed to implement to comply with District Rule 4570 as well as the associated VOC control efficiency for each mitigation measure that is proposed.

Broiler House Mitigation Measure Requirements		
		VOC Control Efficiency (%)
Feed:		
1	Feed according to NRC guidelines.	10
Housing:		
2	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.	10
3	Use drinkers that do not drip continuously.	10
4	Inspect drinkers at least once every seven (7) days and adjust the height, volume, and location of drinkers if necessary, and Inspect water pipes and drinkers and repair leaks daily.	10
Solid Manure/Separated Solids:		
5	Within seventy-two (72) hours of removal from housing: a. Remove all litter/manure from the facility. 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.	0*

* No control efficiency has been established for the mitigation measures for solid manure, although emissions reductions are expected.

The control efficiencies for the selected mitigation measures will only be applied to VOC emissions. Therefore, the controlled VOC emission factor is calculated as follows:

$$\begin{aligned}\text{VOC EF} &= \text{EF} \times (1 - \text{CE}) \times (1 - \text{CE}) \times (1 - \text{CE}) \times (1 - \text{CE}) \\ &= (0.025 \text{ lb-VOC/hd-yr}) \times (1 - 0.1) \times (1 - 0.1) \times (1 - 0.1) \times (1 - 0.1) \\ &= 0.016 \text{ lb-VOC/hd-yr}\end{aligned}$$

There is no control applied to the NH₃ and PM₁₀ emission factors. Therefore, the emission factors for each pollutant from the broiler houses are summarized in the following table.

Emission Factors for the Broiler Ranch		
Pollutant	EF, lb/bird-year	Source
PM ₁₀	0.02	R.E. Lacey et al (2003) "Particulate Matter and Ammonia Emission Factors for Tunnel-Ventilated Broiler Production Houses in the Southern U.S."
VOC	0.016	District Rule 4570 Staff Report with Control Efficiencies for Mitigation Measures
NH ₃	0.0958	Summers, M.D. (2005) "Quantification of Gaseous Emissions from California Broiler Production Houses"

Manure Handling (Permit Unit S-8950-2)

As previously mentioned in Section VII.A, emissions from handling solid manure/litter are included in the emission factors used for the broiler houses; therefore, there are no separate emission factors for this permit unit.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

As mentioned in Section VII above, although the broiler ranch is not currently subject to District permitting requirements, it is an existing facility that will become subject to permits as a result of the increase in flock size proposed under this project; therefore, the pre-project emissions from the existing broiler houses will be calculated to establish the current baseline for emission calculations.

Broiler Houses (Permit Unit S-8950-1, currently exempt from permits)

The daily PE1 for each boiler house is calculated using the following formula:

$$\text{Annual PE1} = \text{EF, lb/bird-year} \times \# \text{ of Birds} \div 365 \text{ day/year}$$

The annual PE1 for each boiler house is calculated using the following formula:

$$\text{Annual PE1} = \text{EF, lb/bird-year} \times \# \text{ of Birds}$$

Because the existing broiler ranch is not currently required to implement District Rule 4570 mitigation measures, PE1 for VOC from the existing broiler houses will be calculated using the uncontrolled broiler VOC Emission Factor (0.025 lb-VOC/bird-year).

Existing 280 ft x 40 ft House (1 house, 14,000 birds)

Pre-Project Potential to Emit (PE1) for Existing 280' x 40' Broiler House								
Pollutant	# of Broilers	x	EF (lb/bird-yr)	=	PE2 (lb/yr)	÷	365 day/yr	= PE2 (lb/day)
PM ₁₀	14,000	x	0.02	=	280	÷	365	= 0.8
VOC	14,000	x	0.025	=	350	÷	365	= 1.0
NH ₃	14,000	x	0.0958	=	1,341	÷	365	= 3.7

Existing 252 ft x 40 ft Houses (4 houses, 12,600 birds each)

Pre-Project Potential to Emit (PE1) for Existing 252' x 40' Broiler Houses								
Pollutant	# of Broilers	x	EF (lb/bird-yr)	=	PE2 (lb/yr)	÷	365 day/yr	= PE2 (lb/day)
PM ₁₀	12,600	x	0.02	=	252	÷	365	= 0.7
VOC	12,600	x	0.025	=	315	÷	365	= 0.9
NH ₃	12,600	x	0.0958	=	1,207	÷	365	= 3.3

Existing 308 ft x 40 ft Houses (12 houses, 15,400 birds each)

Pre-Project Potential to Emit (PE1) for Existing 308' x 40' Broiler Houses								
Pollutant	# of Broilers	x	EF (lb/bird-yr)	=	PE2 (lb/yr)	÷	365 day/yr	= PE2 (lb/day)
PM ₁₀	15,400	x	0.02	=	308	÷	365	= 0.8
VOC	15,400	x	0.025	=	385	÷	365	= 1.1
NH ₃	15,400	x	0.0958	=	1,475	÷	365	= 4.0

Total PE1 for Broiler Houses (17 houses, Maximum Total of 249,200 birds)

Total Pre-Project Potential to Emit (PE1) for the Broiler Ranch (Permit-Exempt)								
Broiler House Description	# of Houses	Max # of Birds per House	PE2 PM ₁₀		PE2 VOC		PE2 NH ₃	
			lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr
Existing 280' x 40' House: # 1	1	14,000	0.8	280	1.0	350	3.7	1,341
Existing 252' x 40' Houses: # 2 - 5	4	12,600	0.7	252	0.9	315	3.3	1,207
Existing 308' x 40' Houses: # 6 - 17	12	15,400	0.8	308	1.1	385	4.0	1,475
Total	17	249,200	13.2	4,984	17.8	6,230	64.9	23,869

Manure Handling (Permit Unit S-8950-2, currently permit-exempt)

As stated previously, emissions from handling solid manure/litter are included with the emissions from the broiler houses; therefore, no calculations are necessary.

2. Post Project Potential to Emit (PE2)

Broiler Houses (ATC S-8950-1-0)

The daily PE2 for each boiler house is calculated using the following formula:

$$\text{Annual PE2} = \text{EF, lb/bird-year} \times \# \text{ of Birds} \div 365 \text{ day/year}$$

The annual PE2 for each boiler house is calculated using the following formula:

$$\text{Annual PE2} = \text{EF, lb/bird-year} \times \# \text{ of Birds}$$

Existing 280 ft x 40 ft House (1 house, 14,000 birds)

Post-Project Potential to Emit (PE2) for Existing 280' x 40' Broiler House									
Pollutant	# of Broilers	x	EF (lb/bird-yr)	=	PE2 (lb/yr)	÷	365 day/yr	=	PE2 (lb/day)
PM ₁₀	14,000	x	0.02	=	280	÷	365	=	0.8
VOC	14,000	x	0.016	=	224	÷	365	=	0.6
NH ₃	14,000	x	0.0958	=	1,341	÷	365	=	3.7

Existing 252 ft x 40 ft Houses (4 houses, 12,600 birds each)

Post-Project Potential to Emit (PE2) for Existing 252' x 40' Broiler Houses								
Pollutant	# of Broilers	x	EF (lb/bird-yr)	=	PE2 (lb/yr)	÷	365 day/yr	= PE2 (lb/day)
PM ₁₀	12,600	x	0.02	=	252	÷	365	= 0.7
VOC	12,600	x	0.016	=	202	÷	365	= 0.6
NH ₃	12,600	x	0.0958	=	1,207	÷	365	= 3.3

Existing 308 ft x 40 ft Houses (12 houses, 15,400 birds each)

Post-Project Potential to Emit (PE2) for Existing 308' x 40' Broiler Houses								
Pollutant	# of Broilers	x	EF (lb/bird-yr)	=	PE2 (lb/yr)	÷	365 day/yr	= PE2 (lb/day)
PM ₁₀	15,400	x	0.02	=	308	÷	365	= 0.8
VOC	15,400	x	0.016	=	246	÷	365	= 0.7
NH ₃	15,400	x	0.0958	=	1,475	÷	365	= 4.0

Proposed New 500 ft x 54 ft Houses (12 houses, 33,750 birds each)

Post-Project Potential to Emit (PE2) for Proposed New 500' x 54' Broiler Houses								
Pollutant	# of Broilers	x	EF (lb/bird-yr)	=	PE2 (lb/yr)	÷	365 day/yr	= PE2 (lb/day)
PM ₁₀	33,750	x	0.02	=	675	÷	365	= 1.8
VOC	33,750	x	0.016	=	540	÷	365	= 1.5
NH ₃	33,750	x	0.0958	=	3,233	÷	365	= 8.9

Total PE2 for Broiler Houses (29 houses, Maximum Total of 654,200 birds)

Total Post-Project Potential to Emit (PE2) for the Broiler Ranch (ATC S-8950-1-0)								
Broiler House Description	# of Houses	Max # of Birds per House	PE2 PM ₁₀		PE2 VOC		PE2 NH ₃	
			lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr
Existing 280' x 40' House: # 1	1	14,000	0.8	280	0.6	224	3.7	1,341
Existing 252' x 40' Houses: # 2 - 5	4	12,600	0.7	252	0.6	202	3.3	1,207
Existing 308' x 40' Houses: # 6 - 17	12	15,400	0.8	308	0.7	246	4.0	1,475
Proposed New 500' x 54' Houses: # 18-29	12	33,750	1.8	675	1.5	540	8.9	3,233
Total	29	654,200	34.8	13,084	29.4	10,464	171.7	62,665

Manure Handling (ATC S-8950-2-0)

As stated previously, emissions from handling solid manure/litter are included with the emissions from the broiler houses; therefore, no calculations are necessary.

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

As mentioned in Section VII above, although the broiler ranch is not currently subject to District permitting requirements, it is an existing facility that will become subject to permits as a result of the increase in flock size proposed under this project; therefore, the SSPE1 for the existing broiler ranch will be calculated to establish the current baseline emissions.

SSPE1 (lb/year)						
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC	NH₃
S-8950-1-0 (Broiler Ranch Houses; Currently Permit-Exempt)	0	0	4,984	0	6,230	23,869
Unit S-8950-2-0 (Solid Manure Handling*; Currently Permit-Exempt)	0	0	0	0	0	0
S-8950-3-0 (Existing 0.84 MMBtu/hr Incinerator)**	2,315	11	296	2,114	1	0
SSPE2	2,315	11	5,280	2,114	6,231	23,869

* Emissions from handling solid manure/litter are included with the emissions from the broiler houses

**The existing incinerator at the broiler ranch will be grandfathered into District permits after the increase in flock size. For PE calculations for S-8950-3-0 refer to PTO Project S-1170548

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)						
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC	NH ₃
ATC S-8950-1-0 (Broiler Ranch Houses)	0	0	13,084	0	10,464	62,665
ATC S-8950-2-0 (Solid Manure Handling)*	0	0	0	0	0	0
S-8950-3-0 (Existing 0.84 MMBtu/hr Incinerator)**	2,315	11	296	2,114	1	0
SSPE2	2,315	11	13,380	2,114	10,465	62,665

* Emissions from handling solid manure/litter are included with the emissions from the broiler houses

** The existing incinerator at the broiler ranch will be grandfathered into District permits after the increase in flock size. For PE calculations for S-8950-3-0 refer to PTO Project S-1170548

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5} *	CO	VOC
SSPE1	2,315	11	5,280	794	2,114	6,231
SSPE2	2,315	11	13,380	1,604	2,114	10,465
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

* Note: PM_{2.5} from the broiler houses assumed to be 10% of PE for PM₁₀; PM_{2.5} from the existing incinerator assumed to equal PE for PM₁₀

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tons per year (tpy) for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO₂	VOC	SO₂	CO	PM*	PM₁₀
Estimated Facility PE before Project Increase*	1.2	3.1	0.0	1.1	6.4	2.6
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	N	N	N	N	N	N

* For PSD purposes the Potential to Emit calculated for the existing permit-exempt broiler ranch

**Note: PM from the broiler houses assumed to be 250% of PE for PM₁₀

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

Therefore BE = PE1.

ATC S-8950-1-0 (Broiler Houses)

The proposed project includes modification of the existing broiler housing emission units (Existing Broiler Houses # 1-17) and construction of new broiler housing emission units (New Broiler Houses # 18-29). BE for all affected pollutants for the existing broiler houses # 1-17 is equal to the PE1 for the broiler houses calculated in Section VII.C.1 above. As

calculated in Section VII.C.1 above, the PE1 for existing broiler houses # 1-17 is summarized in the following table:

Total Pre-Project Potential to Emit (PE1) for the Broiler Ranch (Permit-Exempt)					
Broiler House Description	# of Houses	Max # of Birds per House	PE2 PM ₁₀	PE2 VOC	PE2 NH ₃
			lb/yr	lb/yr	lb/yr
Existing 280' x 40' House: # 1	1	14,000	280	350	1,341
Existing 252' x 40' Houses: # 2 - 5	4	12,600	252	315	1,207
Existing 308' x 40' Houses: # 6 - 17	12	15,400	308	385	1,475
Total	17	249,200	4,984	6,230	23,869

Because the proposed new broiler houses # 18-29 are new emissions units, BE = PE1 = 0 for all affected pollutants from the new broiler houses.

ATC S-8950-2-0 (Manure Handling)

As stated previously, emissions from handling solid manure/litter are included with the emissions from the broiler houses; therefore, for the manure handling permit BE = PE1 = 0 for all affected pollutants.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be

addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are (See 52.21 (b) (23) definition of significant):

- PM
- PM10

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tons per year (tpy) for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)					
	NO₂	SO₂	CO	PM	PM₁₀
Total PE from New and Modified Units	0	0	0	16.4	6.5
PSD Major Source threshold	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N

* Note: PM from the broiler houses assumed to be 250% of PE for PM₁₀

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix B.

VIII. Compliance Determination

Rule 1070 Inspections

This rule applies to any source operation which emits or may emit air contaminants.

This rule allows the District to perform inspections for the purpose of obtaining information necessary to determine whether air pollution sources are in compliance with applicable rules and regulations. The rule also allows the District to require record keeping, to make inspections and to conduct tests of air pollution sources.

Therefore, the following conditions will be listed on each permit to ensure compliance:

- {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
- {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]

Rule 2010 Permits Required

The provisions of this rule apply to any person who plans to or does operate, construct, alter, or replace any source operation, which may emit air contaminants or may reduce the emission of air contaminants.

Pursuant to Section 4.0, a written permit shall be obtained from the APCO. No Permit to Operate shall be granted either by the APCO or the Hearing Board for any source operation described in Section 3.0, constructed or installed without authorization as required by Section 3.0 until the information required is presented to the APCO and such source operation is altered, if necessary, and made to conform to the standards set forth in Rule 2070 (Standards for Granting Applications) and elsewhere in District rules and regulations.

The applicant has applied for ATC permits under the current project for the proposed increase in flock size at the broiler ranch. Therefore, compliance with this rule is expected.

Rule 2020 Exemptions

This rule specifies emissions units that are not required to obtain an ATC or PTO. This rule also specifies the recordkeeping requirements to verify the exemption and outlines the compliance schedule for emissions units that lose the exemption after installation.

Pre-Project Broiler Ranch (249,200 broiler chickens):

Pursuant to Section 5.0 - District Permit Exemptions, an Authority to Construct or Permit to Operate shall not be required for an emissions unit covered under District Exempt Source Categories listed in Sections 6.0 or 7.0, unless one or more of the following is true:

- 5.1 The source is a NSPS source;
- 5.2 The source is a HAP source;
- 5.3 The APCO makes a determination that a permit shall be required because the source may not operate in compliance with all District rules and regulations; or
- 5.4 The owner specifically requests a Permit to Operate.

Pursuant to Section 6.20 - Agricultural Sources, except as required by Section 5.0, no Authority to Construct or Permit to Operate shall be required for agricultural sources at a stationary source that, in aggregate, produce actual emissions less than one-half of the major source thresholds.

For the purposes of determining permitting applicability, fugitive emissions, except fugitive dust emissions, are included in determining aggregate emissions. In no case shall the exemption in Section 6.20.1 apply to a stationary source required to obtain Title V permits according to Rule 2520 (Federally Mandated Operating Permits).

As explained in Section I above, although the emissions from the existing broiler chicken ranch are currently below the one-half major source agricultural source permitting thresholds, the proposed increase in the flock size will cause VOC emissions from the facility to exceed the applicable permitting threshold; therefore, the facility has applied for ATCs for the increase in the flock size under this project. In addition, the facility has applied for a permit to operate for the existing incinerator at the facility under Project S-1170548. Therefore, compliance with this rule is expected.

Emissions from Chicken Feed Receiving and Storage:

Section 3.10 defines a low emitting unit as an emissions unit with an uncontrolled emissions rate of each air contaminant less than 2 lb/day or if greater than 2 lb/day, is less than or equal to 75 lb/yr.

Section 6.19 states that low emitting units, except those which belong to a source category listed in Section 6.1 through 6.18, shall not require an ATC or PTO.

The following calculations demonstrate that emissions from the feed storage and handling operation are less than 2.0 lb/day, and therefore the feed storage and handling operation is exempt from District permitting requirements.

Because there are no accepted VOC and NH₃ emission factors for broiler chicken feed, VOC and NH₃ emitted directly from the feed cannot be calculated. Additionally, VOC and NH₃ emissions from broiler chicken feed, which primarily consists of dry grain, are expected to be minimal. However, PM₁₀ emissions from receiving the chicken feed can be calculated.

AP-42 Table 9.9.1-2 lists an uncontrolled PM₁₀ emission factor for grain receiving at animal feed mills as 0.0025 lb/ton.

In order for PM₁₀ emissions from feed receiving to exceed 2.0 lb/day, the entire facility would need to receive more than 800 tons of feed per day, as shown in the following calculation.

$$(2.0 \text{ lb-PM}_{10}/\text{day}) \div (0.0025 \text{ lb-PM}_{10}/\text{ton}) = 800 \text{ ton/day of feed received}$$

In order for PM₁₀ emissions from feed receiving to exceed 75 lb/year, the entire facility would need to receive more than 800 tons of feed per day, as shown in the following calculation.

$$(75 \text{ lb-PM}_{10}/\text{year}) \div (0.0025 \text{ lb-PM}_{10}/\text{ton}) = 30,000 \text{ ton/year of feed received}$$

The information that the applicant provided for the Tulare County CEQA document for the project indicates that the facility will receive no more than two feed truck deliveries per day; however, it appears that this may be an underestimate based on the expected amount of feed required for

the proposed size of the broiler ranch (654,200 broiler chickens). Therefore, for this analysis it will be assumed that the facility may receive three feed truck deliveries per day. The maximum weight of each feed delivery is assumed to be approximately 24 tons of chicken feed. The applicant has also indicated that the facility will receive no more 30,000 tons per year of chicken feed. As shown below, the amount of feed required for a broiler ranch with a capacity of 654,200 broiler chickens is approximately 23,927 tons.

As demonstrated by the following calculations, the maximum PM₁₀ emissions from receiving feed at the facility are estimated to be approximately 0.18 lb-PM₁₀/day and 60 lb-PM₁₀/year.

Estimated Daily PM₁₀ Emissions from Receiving Chicken Feed

$$(3 \text{ truckloads feed received/day}) \times (24 \text{ ton/truckload}) \times (0.0025 \text{ lb-PM}_{10}/\text{ton}) \\ = 0.18 \text{ lb-PM}_{10}/\text{day}$$

Estimated Annual PM₁₀ Emissions from Receiving Chicken Feed

Broiler Dry Matter (DM) Intake: 4.05 kg/bird (American Society of Agricultural Engineers (ASAE) D384.2 Manure Production and Characteristics (March 2005))

Dry Matter Content of Poultry Feed: approximately 90% (See National Research Council. 1994. Nutrient Requirements of Poultry, 9th revised edition. Washington, D.C.: National Academy Press, Table 9-1 Composition (Excluding Amino Acids) of Some Feeds Commonly Used for Poultry (data on as-fed basis) and Chiba, Lee I. (2014) Animal Nutrition Handbook, Section 18: Diet Formulation and Feed Ingredients: <http://www.ag.auburn.edu/~chibale/an18dietformingredients.pdf>)

Maximum Number of Broiler Flocks per year: 6.7 (Summers, M.D. (2005) Quantification of Gaseous Emissions from California Broiler Production Houses)

Estimated Feed Waste Factor: 1.1 (assuming 10% waste – spillage, spoilage, etc.)

Amount of chicken feed required: = 4.05 kg-DM/bird ÷ 0.90 kg DM/kg-feed x 2.2046 lb/kg x 6.7 (flocks)/year = 66.5 lb-feed/bird-year

66.5 lb-feed/bird-year x 654,200 bird x 1.1 x 1 ton/2,000 lb = 23,927 ton-feed/year

(23,927 tons feed received/year) x (0.0025 lb-PM₁₀/ton) = 60 lb-PM₁₀/year

Once the chicken feed is received and stored in silos, it is sent to each broiler house, as needed, through a series of enclosed augers and pipes. It is then dispensed to feed the chickens inside the broiler houses. Thus, after the chicken feed is received and stored, PM₁₀ emissions are expected to be negligible.

As calculated above, the potential PM₁₀ emissions from feed receiving and storage for the entire broiler ranch are expected to be less than 0.2 lb-PM₁₀/day and approximately 60 lb-PM₁₀/year. Consequently, no single emissions unit receiving the chicken feed (i.e. storage silo) could have

emissions in excess of 2.0 lb/day. In addition, no single emissions unit receiving the chicken feed could have emissions in excess of 75 lb/year. Therefore, in accordance with Section 6.19 of District Rule 2020, the feed storage and handling operation is exempt from District permitting requirements.

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

ATC S-8950-1-0 (Broiler Houses: New Houses)

As seen in Section VII.C.2 above, the applicant is proposing to install 12 new broiler houses (new broiler houses #18-29), each with a PE greater than 2.0 lb/day for NH₃. Therefore, BACT is triggered for NH₃ from each of the proposed new broiler houses.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore, BACT is not triggered for relocation of an emissions unit.

c. Modification of emissions units – AIPE > 2 lb/day

As part of the proposed project to increase the permitted flock size at the broiler ranch, the existing broiler houses # 1-17 will be modified to comply with District Rule 4570 (ATC S-8950-1-0). The manure handling permit unit will also be modified to allow for the increase in manure handled as a result of the increase in flock size and for compliance with District Rule 4570 (ATC S-8950-2-0).

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

PE2 = Post-Project Potential to Emit, (lb/day)

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE2} - (\text{PE1} \times (\text{EF2} / \text{EF1}))$$

ATC S-8950-1-0 (Broiler Houses: Modification of Existing Houses)

Existing 280 ft x 40 ft House (1 house, 14,000 birds)

AIPE for Existing 280' x 40' Broiler House (1 house, 14,000 birds)										
Pollutant	PE2 (lb/day)	-	PE1 (lb/day)	x	(	EF2 (lb/bird-yr)	÷	EF1 (lb/bird-yr)	)	= AIPE (lb/day)
PM ₁₀	0.8	-	0.8	x	(	0.02	÷	0.02	)	= 0.0
VOC	0.6	-	1.0	x	(	0.016	÷	0.025	)	= 0.0
NH ₃	3.7	-	3.7	x	(	0.0958	÷	0.0958	)	= 0.0

Existing 252 ft x 40 ft Houses (4 houses, 12,600 birds each)

AIPE for Existing 252' x 40' Broiler Houses (4 houses, 12,600 birds each)										
Pollutant	PE2 (lb/day)	-	PE1 (lb/day)	x	(	EF2 (lb/bird-yr)	÷	EF1 (lb/bird-yr)	)	= AIPE (lb/day)
PM ₁₀	0.7	-	0.7	x	(	0.02	÷	0.02	)	= 0.0
VOC	0.6	-	0.9	x	(	0.016	÷	0.025	)	= 0.0
NH ₃	3.3	-	3.3	x	(	0.0958	÷	0.0958	)	= 0.0

Existing 308 ft x 40 ft Houses (12 houses, 15,400 birds each)

AIPE for Existing 308' x 40' Broiler Houses (12 houses, 15,400 birds each)										
Pollutant	PE2 (lb/day)	-	PE1 (lb/day)	x	(	EF2 (lb/bird-yr)	÷	EF1 (lb/bird-yr)	)	= AIPE (lb/day)
PM ₁₀	0.8	-	0.8	x	(	0.02	÷	0.02	)	= 0.0
VOC	0.7	-	1.1	x	(	0.016	÷	0.025	)	= 0.0
NH ₃	4.0	-	4.0	x	(	0.0958	÷	0.0958	)	= 0.0

As demonstrated above, the AIPE is not greater than 2.0 lb/day for any pollutant emitted from the existing broiler houses. Therefore, BACT is not triggered for modification of any of the broiler houses emissions unit.

Manure Handling (ATC S-8950-2-0)

As stated previously, emissions from handling solid manure/litter are included with the emissions from the broiler houses; therefore, for the manure handling permit AIPE = 0 for all affected pollutants and BACT is not triggered for modification of the manure handling permit.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification. Therefore, BACT is not triggered for any pollutant for an SB 288 or Federal Major Modification.

2. BACT Guideline

BACT Guideline 5.7.1 [Broiler House] applies to the proposed new broiler houses. (See Appendix C)

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached top-down BACT analysis (see Appendix C), BACT is satisfied with the following:

- NH₃: acidifying litter amendments; all birds fed in accordance with NRC guidelines; and all mortality removed from houses at least once per day

The following conditions will be included on ATC S-8950-1-0 as a means to enforce compliance with the requirements of BACT:

- Permittee shall feed all animals according to National Research Council (NRC) guidelines. [District Rules 2201 and 4570]
- Permittee shall use acidifying litter amendments in each of the 500 ft x 40 ft broiler houses. The amendments shall be applied in accordance with the manufacturer's recommendations. [District Rule 2201]
- All mortality in each 500 ft x 54 ft broiler house shall be removed at least once per day. [District Rule 2201]

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	2,315	11	13,380	2,114	10,465
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore offset calculations are not necessary and offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

- New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- Any project which results in the offset thresholds being surpassed,
- Any project with an SSPE of greater than 20,000 lb/year for any pollutant, and/or
- Any project which results in a Title V significant permit modification

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements.

As discussed above, this project includes 12 new broiler houses, each with a capacity of 33,750 broiler chickens.

The PE2 for each new unit (broiler house) is compared to the daily PE Public Notice thresholds in the following table:

Each Proposed New 500 ft x 54 ft Broiler House

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO _x	0.0	100 lb/day	No
SO _x	0.0	100 lb/day	No
PM ₁₀	1.8	100 lb/day	No
CO	0.0	100 lb/day	No
VOC	1.5	100 lb/day	No
NH ₃	8.9	100 lb/day	No

As seen above, this project does not include a new emissions unit which has daily potential to emit greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	2,315	2,315	20,000 lb/year	No
SO _x	11	11	54,750 lb/year	No
PM ₁₀	5,280	13,380	29,200 lb/year	No
CO	2,114	2,114	200,000 lb/year	No
VOC	6,231	10,465	20,000 lb/year	No

As detailed above, there were no offset thresholds surpassed with this project; therefore public noticing is not required for surpassing an offset threshold.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	2,315	2,315	0	20,000 lb/year	No
SO _x	11	11	0	20,000 lb/year	No
PM ₁₀	13,380	5,280	8,100	20,000 lb/year	No
CO	2,114	2,114	0	20,000 lb/year	No
VOC	10,465	6,231	4,234	20,000 lb/year	No
NH ₃	62,665	23,869	38,796	20,000 lb/year	Yes

As demonstrated above, the SSIPE for NH₃ was greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

e. Title V Significant Permit Modification

Since this facility does not have a Title V operating permit, this change is not a Title V significant Modification, and therefore public noticing is not required for a Title V significant Modification.

2. Public Notice Action

As discussed above, public noticing is required for this project for an SSIPE for NH₃ that exceeds 20,000 lb/yr. Therefore, public notice documents will be submitted to the California Air Resources Board (ARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATCs for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The DELs for the broiler house emission units are based on the bird limits for each house type, the lb/bird-year emission factor for each pollutant, and the maximum operating schedule of 365 days/year. The following conditions will be included on the ATCs, as specified, as a means to enforce compliance.

ATC S-8950-1-0

- Emissions from the broiler chicken ranch shall not exceed any of the following limits: 0.02 lb-PM₁₀/bird/year; 0.016 lb-VOC/bird/year; or 0.0958 lb-NH₃/bird/year. [District Rule 2201]
- The number of birds housed in the 280 ft x 40 ft broiler house (located near the northeast corner of the facility) shall not exceed 14,000 birds at any one time. The number of birds housed in each of the four 252 ft x 40 ft broiler houses (located in the northeast section of the facility) shall not exceed 12,600 birds at any one time. The number of birds housed in each of the twelve 308 ft x 40 ft broiler houses (located along the eastern side of the facility) shall not exceed 15,400 birds at any one time. The number of birds housed in each of the twelve 500 ft x 54 ft mechanically ventilated broiler houses (located along the western side of the facility) shall not exceed 33,750 birds at any one time. [District Rule 2201]
- Permittee shall feed all animals according to National Research Council (NRC) guidelines. [District Rules 2201 and 4570]
- Permittee shall use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues. [District Rules 2201 and 4570]
- Permittee shall use drinkers that do not drip continuously. [District Rules 2201 and 4570]

- Permittee shall inspect drinkers at least once every seven (7) days and adjust the height, volume, and location of drinkers if necessary. [District Rules 2201 and 4570]
- Permittee shall inspect water pipes and drinkers and repair leaks daily. [District Rules 2201 and 4570]
- Permittee shall use acidifying litter amendments in the 500 ft. x 54 ft. broiler houses. The amendments shall be applied in accordance with the manufacturer's recommendations. [District Rule 2201]
- All mortality in each 500 ft. x 54 ft. broiler house shall be removed at least once per day. [District Rule 2201]

S-8950-2-0 (Solid Manure Handling):

- {4573} Within seventy two (72) hours of removal of solid manure from housing, permittee shall either 1) remove all litter/manure from the facility, or 2) 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. [District Rule 4570]

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

Monitoring is not required for compliance with Rule 2201. Monitoring requirements in accordance with District Rule 4570 will be discussed in Section VIII, *District Rule 4570*, of this evaluation.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201.

The owner/operator will be required to maintain records of the number of birds in each size of broiler house (e.g. 280' x 40', etc.) and will be required to maintain records of the total number of birds at the ranch and records that acidifying litter amendments are used as required per BACT (for ATC S-8950-1-0).

The following conditions will be included on the ATC permits:

S-8950-1-0 (Broiler Ranch Houses):

- Permittee shall maintain records of feed content, formulation, and quantity of feed additive utilized, to demonstrate compliance with National Research Council (NRC) guidelines. Records such as feed company guaranteed analyses (feed tags), ration sheets, or feed purchase records may be used to meet this requirement. [District Rules 2201 and 4570]
- Permittee shall maintain records to demonstrate that a dry housing cleaning method is maintained. For times when a wet cleaning method is required, the reason should be included as part of the records. [District Rules 2201 and 4570]
- Permittee shall record the date that drinkers are inspected dates adjustments were made to the height, volume, and location of drinkers. [District Rules 2201 and 4570]
- Permittee shall maintain records indicating that water pipes and drinkers are inspected daily and that any leaks are repaired. [District Rules 2201 and 4570]
- Permittee shall maintain records that acidifying litter amendments are used per the manufacturer's recommendations. [District Rule 2201]
- Permittee shall maintain daily records of mortality removal in each broiler house. [District Rule 2201]
- Permittee shall maintain a record of the number of animals of each species and production group in each broiler house and shall maintain quarterly records of any changes to this information. [District Rules 2201 and 4570]
- Permittee shall keep and maintain all records for a minimum of five (5) years and shall make records available to the APCO and EPA upon request. [District Rules 2201 and 4570]

S-8950-2-0 (Solid Manure Handling):

- {4574} Permittee shall keep records of dates when litter/manure is removed from the facility; manure hauling invoices may be used to meet this requirement, or permittee shall maintain records to demonstrate that litter/manure piles outside the pens are covered with a weatherproof covering from October through May. [District Rule 4570]
- {4528} If weatherproof coverings are used, permittee shall maintain records, such as manufacturer warranties or other documentation, demonstrating that the weatherproof covering over dry manure are installed, used, and maintained in accordance with manufacturer recommendations and applicable standards listed in NRCS Field Office Technical Guide Code 313 or 367, or any other applicable standard approved by the APCO, ARB, and EPA. [District Rule 4570]

- Permittee shall keep and maintain all records for a minimum of five (5) years and shall make records available to the APCO and EPA upon request. [District Rules 1070 and 4570]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to Appendix D of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. The proposed project will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed project, including the emissions from proposed new incinerators (S-8950-4-0, -5-0, & -6-0) at the facility that are being processed under a separate project (Project S-1172835), will not cause a violation of an air quality standard for PM. The results of the Criteria Pollutant Modeling conducted for the AAQA are summarized in the following table:

PM₁₀ Pollutant Modeling Results*		
Values are in µg/m ³		
Category	24 Hours	Annual
Net Value	6.911	2.005
Interim Significance Level	10.4**	2.08**
Result	Pass	Pass

* PM₁₀ modeling result values include emissions from proposed new incinerators (S-8950-4-0, -5-0, & -6-0) at the facility that are being processed separately under Project S-1172835.

** Per District Policy 1925 the SIL threshold for fugitive dust sources is 10.4 µg/m³ for the 24-hour average concentration and 2.08 µg/m³ for the annual concentration.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity).

Pursuant to Section 4.12, Emissions subject to or specifically exempt from Regulation VIII (Fugitive PM10 Prohibitions) are exempt from this regulation. According to District Rule 8011, Section 4.0 - Exemptions, On-field agricultural sources are exempt from the provisions of Regulation VIII.

District Rule 8011, Section 3.34 defines an Off-field Agricultural Source as any agricultural source that meets the definition of: outdoor handling, storage and transport of bulk material; paved road; unpaved road; or unpaved vehicle/equipment traffic area. District Rule 8011, Section 3.35 defines an On-field Agricultural Source as any agricultural source that is not an off-field agricultural source. Therefore, this rule does not apply to the activities conducted solely for the raising of poultry.

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

A Health Risk Assessment (HRA) is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix D), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The results of the Risk Management Review (RMR) are summarized in the table below.

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 1-0 (12 Broiler Houses)	20.9	0.09	0.11	3.43E-06	No ¹	Yes
Unit 2-0 (Manure Handling)	N/A ²	N/A ²	N/A ²	N/A ²	No	No
Project Totals	>1	0.09	0.11	3.43E-06		
Facility Totals	>1	0.09	0.11	3.43E-06		

¹ The Acute and Chronic Indices are each below 1.0 and the Cancer Risk factor associated with each emission unit (broiler house) is less than 1.0 in a million. In accordance with the District's Risk Management Policy, these units are approved without Toxic Best Available Control Technology (T-BACT).

² No analysis was required for this unit (manure handling), because all manure is hauled offsite.

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk from any emission units exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk from any single emission unit (broiler house) is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). As outlined by the HRA Summary in Appendix D of this report, the emissions increases for this project was determined to be less than significant.

The following condition will be included on the ATC permit for the broiler ranch houses (ATC S-8950-1-0) to ensure consistency with assumptions of the HRA:

- Only the facility owner or facility employee(s) shall live in the residence located on the western edge of this facility's boundary (at approximately Latitude: 36°30'1.3"N and Longitude: 119°23'39"W). [District Rule 4102]

Rule 4201 Particulate Matter Concentration

Particulate matter concentration from the broiler houses is not expected to exceed the applicable limit as demonstrated below:

$$\text{PM Conc. (gr/scf)} = \frac{(\text{PM emission rate}) \times (7,000 \text{ gr/lb})}{(\text{Air flow rate}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})}$$

Existing 280' x 40' Broiler House

PM emission rate for each house (Assuming PM is 250% of PM₁₀)

$$= 0.8 \text{ lb-PM}_{10}/\text{day} \times 2.5 \text{ lb-PM/lb-PM}_{10} = 2.0 \text{ lb-PM/day}$$

Minimum house ventilation rate = 1,830 scfm

$$\text{PM Conc. (gr/scf)} = [(2.0 \text{ lb/day}) \times (7,000 \text{ gr/lb})] \div [(1,830 \text{ ft}^3/\text{min}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})]$$

$$\text{PM Conc.} = 0.005 \text{ gr/scf} < 0.1 \text{ gr/scf}$$

Each Existing 252' x 40' Broiler House

PM emission rate for each house (Assuming PM is 250% of PM₁₀)

$$= 0.7 \text{ lb-PM}_{10}/\text{day} \times 2.5 \text{ lb-PM/lb-PM}_{10} = 1.75 \text{ lb-PM/day}$$

Minimum house ventilation rate = 1,830 scfm

$$\text{PM Conc. (gr/scf)} = [(1.75 \text{ lb/day}) \times (7,000 \text{ gr/lb})] \div [(1,830 \text{ ft}^3/\text{min}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})]$$

$$\text{PM Conc.} = 0.005 \text{ gr/scf} < 0.1 \text{ gr/scf}$$

Each Existing 308' x 40' Broiler House

PM emission rate for each house (Assuming PM is 250% of PM₁₀)

$$= 0.8 \text{ lb-PM}_{10}/\text{day} \times 2.5 \text{ lb-PM/lb-PM}_{10} = 2.0 \text{ lb-PM/day}$$

Minimum house ventilation rate = 1,830 scfm

$$\text{PM Conc. (gr/scf)} = [(2.0 \text{ lb/day}) \times (7,000 \text{ gr/lb})] \div [(1,830 \text{ ft}^3/\text{min}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})]$$

$$\text{PM Conc.} = 0.005 \text{ gr/scf} < 0.1 \text{ gr/scf}$$

Each New Proposed 500' x 54' Broiler House

PM emission rate for each house (Assuming PM is 250% of PM₁₀)

$$= 1.8 \text{ lb-PM}_{10}/\text{day} \times 2.5 \text{ lb-PM/lb-PM}_{10} = 4.5 \text{ lb-PM/day}$$

Minimum house ventilation rate = 1,830 scfm

$$\text{PM Conc. (gr/scf)} = [(4.5 \text{ lb/day}) \times (7,000 \text{ gr/lb})] \div [(1,830 \text{ ft}^3/\text{min}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})]$$

$$\text{PM Conc.} = 0.012 \text{ gr/scf} < 0.1 \text{ gr/scf}$$

As shown above, PM emissions concentrations from the broiler houses are below the applicable limit. Therefore, compliance with the requirements of this rule is expected.

Rule 4550 Conservation Management Practices (CMP)

This rule applies to agricultural operation sites located within the San Joaquin Valley Air Basin. The purpose of this rule is to limit fugitive dust emissions from agricultural operation sites.

Pursuant to Section 4.2, broiler ranches with greater than or equal to 125,000 birds are subject to this rule.

Pursuant to Section 5.1, effective on and after July 1, 2004, an owner/operator shall implement the applicable CMPs selected pursuant to Section 6.2.

Pursuant to Section 5.2, an owner/operator shall prepare and submit a CMP application for each agricultural operation site to the APCO for approval.

The facility has received District approval for its CMP plan. Continued compliance with the requirements of District Rule 4550 is expected.

Rule 4570 Confined Animal Facilities (CAF)

This rule applies to Confined Animal Facilities (CAF) located within the San Joaquin Valley Air Basin. The purpose of this rule is to limit emissions of Volatile Organic Compounds (VOC) from Confined Animal Facilities (CAF).

Section 5.0 Requirements

Pursuant to Section 5.1, owners/operators of any CAF shall submit, for approval by the APCO, a permit application for each Confined Animal Facility.

Pursuant to Section 5.1.2, a thirty-day public noticing and commenting period shall be required for all large CAF's receiving their initial Permit-to-Operate or Authority-to-Construct.

The applicant has submitted an application containing all the requirements above. The facility is proposing to increase the flock size at the broiler ranch to 654,200 chickens; therefore the facility will be a large CAF. Because public noticing is required for this project, a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATCs.

Pursuant to Section 5.1.3, owners/operators shall submit a facility emissions mitigation plan of the Permit-to-Operate application or Authority-to-Construct application. The mitigation plan shall contain the following information:

- a. 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 permit.
- b. 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.
- c. A list of all mitigation measures shall be chosen from the application portions of Sections 5.5 or 5.6.

This facility has submitted a new Rule 4570 mitigation plan for the broiler ranch operation; therefore, compliance with this Section is satisfied.

Pursuant to Sections 5.1.4 through 5.1.6, the Permit-to-Operate or Authority-to-Construct application shall include the following information, which is in addition to the facility emission mitigation plan:

- The maximum number of animals at the facility in each production stage (facility capacity).
- 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.
- 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.
- The District shall act upon the Authority to Construct application or Permit to Operate application within six (6) months or receiving a complete application.

Pursuant to Section 5.3, 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.

Pursuant to Section 5.4, an owner/operator may temporarily suspend use of mitigation measure(s) provided all of the following requirements are met:

- 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.
- 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,
- The emission mitigation measure is not suspended for longer than recommended by the licensed veterinarian or certified nutritionist for animal health reasons,
- 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
- 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.

The following condition will be placed on each permit.

- {4452} If a licensed veterinarian or a certified nutritionist determines that any VOC mitigation measure will be required to be suspended as a detriment to animal health or necessary for the animal to molt, the owners/operators must notify the District in writing within forty-eight (48) hours of the determination including the duration and the specific health condition requiring the mitigation measure to be suspended. If the situation is expected to exist longer than a thirty-day (30) period, the permittee shall submit a new emission mitigation plan designating a mitigation measure to be implemented in lieu of the suspended mitigation measure. [District Rule 4570]

Section 7.0 Administrative Requirements

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

- Copies of all of the facility's permits
- Copies of all laboratory tests, calculations, logs, records, and other information required to demonstrate compliance with all applicable requirements of this rule, as determined by the APCO, ARB, and EPA.
- Records of the number of animals of each species and production group at the facility on the permit issuance date. Quarterly records of any changes to this information shall also be maintained.

The following condition will be placed on the broiler housing permit:

- {modified 4449} Permittee shall maintain a record of the number of animals of each species and production group in each broiler house and shall maintain quarterly records of any changes to this information. [District Rules 2201 and 4570]

Specific recordkeeping and monitoring conditions are shown below under the appropriate mitigation measures.

Pursuant to Section 7.9, owners/operators of a CAF subject to the requirements of Section 5.0 shall keep and maintain the required records 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. Therefore, the following condition will be placed on the permits:

- {4453} Permittee shall keep and maintain all records for a minimum of five (5) years and shall make records available to the APCO and EPA upon request. [District Rules 1070 and 4570]

Section 7.10 requires specific monitoring or source testing conditions for each mitigation measure. These conditions are shown below with each mitigation measure.

The Poultry Facility has chosen the following Mitigation Measures. All conditions required for compliance with Rule 4570 for the mitigation measures selected by the applicant are shown below. These conditions will be placed on the appropriate permits.

General Conditions

- {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
- {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
- {4452} If a licensed veterinarian or a certified nutritionist determines that any VOC mitigation measure will be required to be suspended as a detriment to animal health or necessary for the animal to molt, the owners/operators must notify the District in writing within forty-eight (48) hours of the determination including the duration and the specific health condition requiring the mitigation measure to be suspended. If the situation is expected to exist longer than a thirty-day (30) period, the permittee shall submit a new emission mitigation plan designating a mitigation measure to be implemented in lieu of the suspended mitigation measure. [District Rule 4570]
- {modified 4449} Permittee shall maintain a record of the number of animals of each species and production group in each broiler house and shall maintain quarterly records of any changes to this information. [District Rules 2201 and 4570]
- {4453} Permittee shall keep and maintain all records for a minimum of five (5) years and shall make records available to the APCO and EPA upon request. [District Rules 1070 and 4570]
- {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. *[District Rules 2070 and 2080, and Public Resources Code 21000-21177: California Environmental Quality Act]*.

Broiler Feed

Feed according to National Research Council (NRC) guidelines

- {modified 4454} Permittee shall feed all animals according to National Research Council (NRC) guidelines. [District Rules 2201 and 4570]
- {modified 4455} Permittee shall maintain records of feed content, formulation, and quantity of feed additive utilized, to demonstrate compliance with National Research Council (NRC) guidelines. Records such as feed company guaranteed analyses (feed tags), ration sheets, or feed purchase records may be used to meet this requirement. [District Rules 2201 and 4570]

Broiler Housing

Use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues

- {modified 3675} Permittee shall use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues. [District Rules 2201 and 4570]
- {modified 3676} Permittee shall maintain records to demonstrate that a dry housing cleaning method is maintained. For times when a wet cleaning method is required, the reason should be included as part of the records. [District Rules 2201 and 4570]

Use drinkers that do not drip continuously

- {modified 4567} Permittee shall use drinkers that do not drip continuously. [District Rules 2201 and 4570]

Inspect drinkers at least once every seven (7) days and adjust the height, volume, and location of drinkers if necessary

- {modified 4568} Permittee shall inspect drinkers at least once every seven (7) days and adjust the height, volume, and location of drinkers if necessary. [District Rules 2201 and 4570]
- {modified 4569} Permittee shall record the date that drinkers are inspected dates adjustments were made to the height, volume, and location of drinkers. [District Rules 2201 and 4570]

Inspect water pipes and drinkers and repair leaks daily

- {modified 4570} Permittee shall inspect water pipes and drinkers and repair leaks daily. [District Rules 2201 and 4570]
- {modified 4571} Permittee shall maintain records indicating that water pipes and drinkers are inspected daily and that any leaks are repaired. [District Rules 2201 and 4570]

Solid Waste Management

Remove litter/manure from the facility within seventy-two (72) hours of removal from housing, or within seventy two (72) hours of removal of solid manure from housing, 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

- {4573} Within seventy two (72) hours of removal of solid manure from housing, permittee shall either 1) remove all litter/manure from the facility, or 2) 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. [District Rule 4570]
- {4574} Permittee shall keep records of dates when litter/manure is removed from the facility; manure hauling invoices may be used to meet this requirement, or permittee shall maintain records to demonstrate that litter/manure piles outside the pens are covered with a weatherproof covering from October through May. [District Rule 4570]
- {4528} If weatherproof covering is used, permittee shall maintain records, such as manufacturer warranties or other documentation, demonstrating that the weatherproof covering over litter/manure are installed, used, and maintained in accordance with manufacturer recommendations and applicable standards listed in NRCS Field Office Technical Guide Code 313 or 367, or any other applicable standard approved by the APCO, ARB, and EPA. [District Rule 4570]

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The County of Tulare (County) is the public agency having principal responsibility for approving the Project. As such, the County served as the Lead Agency for the project. Consistent with CEQA Guidelines §15061(b)(3), a Notice of Exemption was prepared and adopted by the County (Special Use Permit # PSP 16-043, Minor Modification # MIM 16-027).

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381).

The District's engineering evaluation of the project (this document) demonstrates that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District's thresholds of significance for criteria pollutants. Thus, the District concludes that through a combination of project design elements and permit conditions, project specific stationary source emissions will be reduced to less than significant levels. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs S-8950-1-0 & -2-0 subject to the permit conditions on the attached draft ATC permits in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-8950-1-0	3020-01-E	246.5 Electric hp	\$451.00
S-8950-2-0	3020-06	Manure Handling - Miscellaneous	\$116.00

Appendixes

- A: Draft ATCs S-8950-1-0 & -2-0
- B: Quarterly Net Emissions Change
- C: BACT Guideline 5.7.1 & BACT Analysis for the Proposed Broiler Chicken Houses
- D: Summary of Health Risk Assessment (HRA) and Ambient Air Quality Analysis (AAQA)

APPENDIX A

Draft ATCs S-8950-1-0 & -2-0

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-8950-1-0

LEGAL OWNER OR OPERATOR: PITMAN FAMILY FARMS

MAILING ADDRESS: 1075 NORTH AVE
SANGER, CA 93657

LOCATION: 39200 ROAD 80
DINUBA, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF BROILER CHICKEN RANCH CONSISTING OF 249,200 BROILERS; 17 NATURALLY VENTILATED BROILER HOUSES, INCLUDING ELECTRIC FANS TOTALING 48.5 ELECTRIC HP; INCREASE BROILER CHICKENS TO 654,200 AND CONSTRUCT 12 NEW MECHANICALLY VENTILATED BROILER HOUSES (33,750 BIRDS EACH); IMPLEMENT MITIGATION MEASURES FOR COMPLIANCE WITH DISTRICT RULE 4570

CONDITIONS

1. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {4452} If a licensed veterinarian or a certified nutritionist determines that any VOC mitigation measure will be required to be suspended as a detriment to animal health or necessary for the animal to molt, the owners/operators must notify the District in writing within forty-eight (48) hours of the determination including the duration and the specific health condition requiring the mitigation measure to be suspended. If the situation is expected to exist longer than a thirty-day (30) period, the owner/operator shall submit a new emission mitigation plan designating a mitigation measure to be implemented in lieu of the suspended mitigation measure. [District Rule 4570]
5. Emissions from the broiler chicken ranch shall not exceed any of the following limits: 0.02 lb-PM10/bird/year; 0.016 lb-VOC/bird/year; or 0.0958 lb-NH3/bird/year. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-8950-1-0 - Nov 6 2017 5:20PM - NORMANR : Joint Inspection NOT Required

6. The number of birds housed in the 280 ft x 40 ft broiler house (located near the northeast corner of the facility) shall not exceed 14,000 birds at any one time. The number of birds housed in each of the four 252 ft x 40 ft broiler houses (located in the northeast section of the facility) shall not exceed 12,600 birds at any one time. The number of birds housed in each of the twelve 308 ft x 40 ft broiler houses (located along the eastern side of the facility) shall not exceed 15,400 birds at any one time. The number of birds housed in each of the twelve 500 ft x 54 ft mechanically ventilated broiler houses (located along the western side of the facility) shall not exceed 33,750 birds at any one time. [District Rule 2201]
7. Permittee shall feed all animals according to National Research Council (NRC) guidelines. [District Rules 2201 and 4570]
8. Permittee shall maintain records of feed content, formulation, and quantity of feed additive utilized, to demonstrate compliance with National Research Council (NRC) guidelines. Records such as feed company guaranteed analyses (feed tags), ration sheets, or feed purchase records may be used to meet this requirement. [District Rules 2201 and 4570]
9. Permittee shall use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues. [District Rules 2201 and 4570]
10. Permittee shall maintain records to demonstrate that a dry housing cleaning method is maintained. For times when a wet cleaning method is required, the reason should be included as part of the records. [District Rules 2201 and 4570]
11. Permittee shall use drinkers that do not drip continuously. [District Rules 2201 and 4570]
12. Permittee shall inspect drinkers at least once every seven (7) days and adjust the height, volume, and location of drinkers if necessary. [District Rules 2201 and 4570]
13. Permittee shall record the date that drinkers are inspected dates adjustments were made to the height, volume, and location of drinkers. [District Rules 2201 and 4570]
14. Permittee shall inspect water pipes and drinkers and repair leaks daily. [District Rules 2201 and 4570]
15. Permittee shall maintain records indicating that water pipes and drinkers are inspected daily and that any leaks are repaired. [District Rules 2201 and 4570]
16. Permittee shall use acidifying litter amendments in the 500 ft. x 54 ft. broiler houses. The amendments shall be applied in accordance with the manufacturer's recommendations. [District Rule 2201]
17. Permittee shall maintain records that acidifying litter amendments are used per the manufacturer's recommendations. [District Rule 2201]
18. All mortality in each 500 ft. x 54 ft. broiler house shall be removed at least once per day. [District Rule 2201]
19. Permittee shall maintain daily records of mortality removal in each broiler house. [District Rule 2201]
20. Permittee shall maintain a record of the number of animals of each species and production group in each broiler house and shall maintain quarterly records of any changes to this information. [District Rules 2201 and 4570]
21. Permittee shall keep and maintain all records for a minimum of five (5) years and shall make records available to the APCO and EPA upon request. [District Rules 1070 and 4570]
22. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
23. Only the facility owner or facility employee(s) shall live in the residence located on the western edge of this facility's boundary (at approximately Latitude: 36°30'1.3"N and Longitude: 119°23'39"W). [District Rule 4102]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-8950-2-0

LEGAL OWNER OR OPERATOR: PITMAN FAMILY FARMS

MAILING ADDRESS: 1075 NORTH AVE
SANGER, CA 93657

LOCATION: 39200 ROAD 80
DINUBA, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF SOLID MANURE HANDLING SYSTEM WITH LITTER HAULED OFFSITE: ALLOW FOR AN INCREASE IN SOLID MANURE HANDLED DUE TO THE INCREASE IN BROILER CHICKEN FLOCK SIZE AUTHORIZED BY AUTHORITY TO CONSTRUCT (ATC) S-8950-1-0; IMPLEMENT MITIGATION MEASURES FOR COMPLIANCE WITH DISTRICT RULE 4570

CONDITIONS

1. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
2. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
3. {4452} If a licensed veterinarian or a certified nutritionist determines that any VOC mitigation measure will be required to be suspended as a detriment to animal health or necessary for the animal to molt, the owners/operators must notify the District in writing within forty-eight (48) hours of the determination including the duration and the specific health condition requiring the mitigation measure to be suspended. If the situation is expected to exist longer than a thirty-day (30) period, the owner/operator shall submit a new emission mitigation plan designating a mitigation measure to be implemented in lieu of the suspended mitigation measure. [District Rule 4570]
4. {4573} Within seventy two (72) hours of removal of solid manure from housing, permittee shall either 1) remove all litter/manure from the facility, or 2) 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. [District Rule 4570]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-8950-2-0 Nov 6 2017 5:21PM - NORMANR - Joint Inspection NOT Required

5. {4574} Permittee shall keep records of dates when litter/manure is removed from the facility; manure hauling invoices may be used to meet this requirement, or permittee shall maintain records to demonstrate that litter/manure piles outside the pens are covered with a weatherproof covering from October through May. [District Rule 4570]
6. {4528} If weatherproof coverings are used, permittee shall maintain records, such as manufacturer warranties or other documentation, demonstrating that the weatherproof covering over dry manure are installed, used, and maintained in accordance with manufacturer recommendations and applicable standards listed in NRCS Field Office Technical Guide Code 313 or 367, or any other applicable standard approved by the APCO, ARB, and EPA. [District Rule 4570]
7. Permittee shall keep and maintain all records for a minimum of five (5) years and shall make records available to the APCO and EPA upon request. [District Rules 1070 and 4570]
8. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]

DRAFT

APPENDIX B

Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

$QNEC = PE2 - PE1$, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

S-8950-1-0 (Broiler Ranch Housing)

PE1 (lb/qtr) S-8950-1-0					
	PE1 (lb/year)	÷	4 qtr/year	=	PE1 (lb/qtr)
NO _x	0	÷	4 qtr/year	=	0.0
SO _x	0	÷	4 qtr/year	=	0.0
PM ₁₀	4,984	÷	4 qtr/year	=	1,246.0
CO	0	÷	4 qtr/year	=	0.0
VOC	6,230	÷	4 qtr/year	=	1,557.5

PE2 (lb/qtr) S-8950-1-0					
	PE2 (lb/year)	÷	4 qtr/year	=	PE2 (lb/qtr)
NO _x	0	÷	4 qtr/year	=	0.0
SO _x	0	÷	4 qtr/year	=	0.0
PM ₁₀	13,084	÷	4 qtr/year	=	3,271.0
CO	0	÷	4 qtr/year	=	0.0
VOC	10,464	÷	4 qtr/year	=	2,616.0

Quarterly NEC [QNEC] S-8950-1-0					
	PE2 (lb/qtr)	-	PE1 (lb/qtr)	=	QNEC (lb/qtr)
NO _x	0.0	-	0.0	=	0.0
SO _x	0.0	-	0.0	=	0.0
PM ₁₀	3,271.0	-	1,246.0	=	2,025.0
CO	0.0	-	0.0	=	0.0
VOC	2,616.0	-	1,557.5	=	1,058.5

S-8950-2-0 (Broiler Ranch Solid Manure Handling)

As stated in the evaluation, emissions from solid manure are included with considered with the housing and all solid manure taken from the housing is immediately taken offsite.

PE1 (lb/qtr) S-8950-2-0					
	PE1 (lb/year)	÷	4 qtr/year	=	PE1 (lb/qtr)
NO _x	0	÷	4 qtr/year	=	0.0
SO _x	0	÷	4 qtr/year	=	0.0
PM ₁₀	0	÷	4 qtr/year	=	0.0
CO	0	÷	4 qtr/year	=	0.0
VOC	0	÷	4 qtr/year	=	0.0

PE2 (lb/qtr) S-8950-2-0					
	PE2 (lb/year)	÷	4 qtr/year	=	PE2 (lb/qtr)
NO _x	0	÷	4 qtr/year	=	0.0
SO _x	0	÷	4 qtr/year	=	0.0
PM ₁₀	0	÷	4 qtr/year	=	0.0
CO	0	÷	4 qtr/year	=	0.0
VOC	0	÷	4 qtr/year	=	0.0

Quarterly NEC [QNEC] S-8950-2-0					
	PE2 (lb/qtr)	-	PE1 (lb/qtr)	=	QNEC (lb/qtr)
NO _x	0.0	-	0.0	=	0.0
SO _x	0.0	-	0.0	=	0.0
PM ₁₀	0.0	-	0.0	=	0.0
CO	0.0	-	0.0	=	0.0
VOC	0.0	-	0.0	=	0.0

APPENDIX C

BACT Guideline 5.7.1 & BACT Analysis for the Proposed Broiler Chicken Houses

SJVAPCD Best Available Control Technology (BACT) Guideline 5.7.1*
Last Update: 2/01/2006

Broiler House

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
VOC	19% control - 1. Completely enclosed mechanically ventilated broiler housing with evaporative cooling pads, mixing fans, and a computer control system using thermostats, sensors, and timers to control environmental conditions; all birds fed in accordance with NRC or other District-approved guidelines; houses completely cleaned out at least twice per year; and all mortality removed from houses twice per day OR 2. Acidifying litter amendments; all birds fed in accordance with NRC or other District-approved guidelines; and all mortality removed from houses twice per day	1) 98% control (Capture and Thermal Incineration) 2) 95% control (Capture and Catalytic Incineration) 3) 95% control (Capture and Carbon Adsorption) 4) 80% control (Capture and Biofiltration)	
Ammonia (NH ₃)	55% control - 1. Completely enclosed mechanically ventilated broiler housing with evaporative cooling pads, mixing fans, and a computer control system using thermostats, sensors, and timers to control environmental conditions; all birds fed in accordance with NRC or other District-approved guidelines; houses completely cleaned out at least twice per year; and all mortality removed from houses twice per day OR 2. Acidifying litter amendments; all birds fed in accordance with NRC or other District-approved guidelines; and all mortality removed from houses twice per day	80% control (Capture and Biofiltration)	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

5.7.1

Top-Down BACT Analysis for Project S-1163804 “Free-Range” Broiler Houses

Current District BACT Guideline 5.7.1 applies to the proposed broiler chicken houses. In accordance with the District BACT policy, information from District BACT Guideline 5.7.1 will be utilized for the BACT analysis for the broiler chicken houses proposed under this project.

I. Proposal

Pitman Family Farms is a broiler chicken ranch located near the city of Dinuba in Tulare County, CA. The facility has requested Authority to Construct (ATC) permits to increase the flock size at the existing broiler ranch from 249,200 broiler chickens in 17 broiler houses to 654,200 broiler chickens in 29 broiler houses, by constructing twelve new “free-range” broiler houses, which will each have capacity to house up to 33,750 broiler chickens.

II. BACT Applicability

New emissions units – PE > 2.0 lb/day

New Emissions Unit BACT Applicability for S-8950-1-0 Each Proposed Free-Range Broiler House (33,750 Birds per House)				
Pollutant	PE2 for each unit (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	0.0	> 2.0	N/A	No
SO _x	0.0	> 2.0	N/A	No
PM ₁₀	1.8	> 2.0	N/A	No
CO	0.0	> 2.0 and SSPE2 ≥ 200,000 lb/yr	2,114	No
VOC	1.5	> 2.0	N/A	No
NH ₃	8.9	> 2.0	N/A	Yes

* BACT is not required for CO from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

III. Top-Down BACT Analyses for the Free-Range Broiler Chicken Houses

As stated above, the information from the existing District BACT Guideline 5.7.1 for Broiler Houses will be utilized for the BACT analysis for the proposed free-range broiler chicken houses.

BACT Analysis for NH3 Emissions from the Free-Range Broiler Chicken Houses

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse Guideline 5.7.1 identifies achieved in practice BACT for broiler houses as follows:

- A. 55% control 1) completely enclosed mechanical ventilated broiler housing with evaporative cooling pads, mixing fans, and a computer control system using thermostats, sensors, and timers to control environmental conditions; all birds fed in accordance with

NRC or other District-approved guidelines; houses completely cleaned out at least twice per year; and all mortality removed from houses twice per day OR 2) acidifying litter amendments; all birds fed in accordance with NRC or other District-approved guidelines; and all mortality removed from houses twice per day.

Although current District BACT Clearinghouse Guideline 5.7.1 requires that all mortality be removed from broiler houses twice per day, this will be revised under the current project to require that all mortality be removed from the broiler houses at least once per day. This revision is consistent with the revision to District BACT Clearinghouse Guideline 5.7.2 for poultry layer houses to require removal of mortality from layer houses once per day rather than twice per day and is with the requirements of District BACT Clearinghouse Guideline 5.7.3 for turkey houses, which requires daily removal of mortality from turkey houses.

When District BACT Guideline 5.7.1 was established under District Project C-1051505, the removal of mortality twice per day was a management practice proposed by the facility that was proposing new broiler houses. However, review of the BACT determination for District Project C-1051505 indicates that the frequency of removal of mortality from the broiler houses was not a factor when establishing the overall VOC and NH₃ control efficiencies for the practices that were established as BACT.

As stated above, the requirement that mortality be removed from the broiler houses twice per day was based on a management practice proposed by a particular facility. However, the frequency at which mortality is removed from broiler houses may vary at different facilities. In addition, California state regulations also do not require mortality to be removed at a frequency greater than once per day. Because no additional emissions benefit can be quantified for removal of mortality from broiler houses twice per day rather than once per day and no regulations have been identified that require removal of mortality from broiler houses more than once per day, BACT for this project will only require removal of mortality from the broiler houses once per day. It is also recommended that District BACT Guideline 5.7.1 be updated to require removal of mortality from the broiler houses at least once per day; this would make District BACT Guideline 5.7.1 consistent with other District BACT guidelines for poultry housing (District BACT Guidelines 5.7.2 and 5.7.3).

The SJVUAPCD BACT Clearinghouse guideline 5.7.1 identifies technologically feasible BACT for distilled spirits storage tanks as follows:

B. 80% control (capture and biofiltration)

Step 2 - Eliminate Technologically Infeasible Options

The facility raises “free-range” broilers: “free-range” indicates a method of raising broilers where the birds have an opportunity, for at least a portion of the day to, to roam outside. In order allow the birds to have the opportunity to roam outside, the barns necessarily have to have an opening to allow the birds to ingress and egress; therefore, it is not possible to completely enclose the barn. As such, the technologically feasible option (Option B) and the first achieved in practice option (first choice under Option A) from the possible control technologies list in Step 1 above are technologically infeasible and will be removed from further consideration.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

The only remaining option is the second choice of Option A identified in Step 1 above: acidifying litter amendments; all birds fed in accordance with NRC or other District-approved guidelines; and all mortality removed from houses at least once per day.

Step 4 - Cost Effectiveness Analysis

Since the applicant is proposing the only remaining control technology, no cost effectiveness analysis is required.

Step 5 - Select BACT

Since the applicant is proposing the only remaining control technology of acidifying litter amendments with all birds fed in accordance with NRC guidelines and all mortality removed from houses at least once per day, BACT has been satisfied. These BACT requirements will be placed on the ATC permit as enforceable conditions.

APPENDIX D

Summary of Health Risk Assessment (HRA) and Ambient Air Quality Analysis (AAQA)

San Joaquin Valley Air Pollution Control District

Risk Management Review

REVISED

To: Ramon Norman – Permit Services

From: Cheryl Lawler – Technical Services

Date: September 27, 2017

Facility Name: Pitman Family Farms

Location: 39200 Road 80, Dinuba

Application #(s): S-8950-1-0 & -2-0

Project #: S-1163804

A. RMR SUMMARY

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 1-0 (Poultry Houses)	20.9	0.09	0.11	3.43E-06	See Conclusion	No
Unit 2-0 (Manure Handling)	N/A ¹	N/A ¹	N/A ¹	N/A ¹	No	No
Unit 4-0 ² (Propane Incinerator)	15.6	0.00	0.04	4.79E-06	Yes	Yes
Unit 5-0 ² (Propane Incinerator)	15.6	0.00	0.04	4.79E-06	Yes	Yes
Unit 6-0 ² (Propane Incinerator)	15.6	0.00	0.04	4.79E-06	Yes	Yes
Project Totals	>1	0.11	0.25	17.8E-06		
Facility Totals	>1	0.11	0.25	17.8E-06		

¹No analysis was required for this unit (manure handling), because all manure is hauled offsite.

²Although the health risk from units S-8950-4-0, -5-0, & -6-0 (proposed new incinerators) was modeled under this project, the permits for these units will be processed separately under Project S-1172835.

Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit 1-0

1. The house located on the western edge of this facility's boundary is only allowed to house an employee only with no other immediate family living there, and needs to be part of his/her compensation.

Units 4-0, 5-0, 6-0

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
2. Each incinerator is only allowed to incinerate 730,000 lbs per year (2,000 lbs/day).

T-BACT is required for these units because of emissions of Benzene, 2,3,7,8-TCDD, Arsenic, Hexavalent Chrome, 1,3,7,8PeCDD, 2,3,7,8-TCDF, & 2-4,7,8PeCDF which are VOCs & PM-10.

B. RMR REPORT

I. Project Description

Technical Services received a request on February 13, 2017, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for the expansion of an existing broiler chicken ranch proposing to increase the number of broiler chickens, construct 12 new mechanically ventilated poultry barns, and add 3 new Propane incinerators.

This project's final memo was revised to reflect updated permit numbers provided by the processing engineer. The actual RMR & AAQA were not re-run. All previously modeled risks remain unchanged.

II. Analysis

Toxic emissions from the new poultry barns were calculated using VOC emission factors generated from a 2004 Source Test conducted on a Broiler House in the District, and PM emission factors generated from using the worst case composite of the 1997 EPA speciation of Kern County feedlot soil. A variable emission rate was set for the barn emission sources: LH1PM-7PM and PHAPM-CPM. A variable emissions rate allows for specific emission rate for individual groups of sources. In the case of the barns for this facility, a variable emissions rate was used to model the fans which operate dependent on environmental temperature. The modeled variable emission rates can be found in Section IV, Appendix C.

Toxic emissions from the three incinerators were calculated using emission factors derived from the 2006 Canadian Environmental Technology Centre report, *Characterization of Emissions from an Animal Crematorium Shenandoah A850*.

All emission rates were then input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for this facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2007-2010 from Visalia to determine the dispersion factors (i.e., the predicted concentration or X divided by

the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 1-0 (Each Poultry Barn)			
Source Type	Line Volume	Location Type	Rural
Approximate Length (m)	48	Increased Bird Capacity	33,750 Chickens
Building Height (m)	5.49	Increase PM10 Emission Rates (lbs)	0.077 hr 675 yr
Plume Width (m)	1.37	Increased Ammonia Emission Rates (lbs)	0.369 hr 3,233 yr

Analysis Parameters Units 4-0, 5-0, 6-0 (Each Incinerator)			
Source Type	Point	Location Type	Rural
Stack Height (m)	4.57	Closest Receptor (m)	125
Stack Diameter (m)	0.15	Type of Receptor	Resident
Stack Exit Velocity (m/s)	26.62	Poultry Incineration Rate (lbs)	125 hr 730,000 yr
Stack Exit Temp. (°K)	1120	Fuel Type	Propane

AAQA In addition to the RMR, Technical Services performed modeling for the criteria pollutant PM₁₀ using AERMOD. The emission rate used was 8,100 lbs PM₁₀/year. The results from the Criteria Pollutant Modeling are as follows:

PM₁₀ Pollutant Modeling Results*
Values are in µg/m³

Category	24 Hours	Annual
Net Value	6.911	2.005
Interim Significance Level	10.4 ¹	2.08 ¹
Result	Pass	Pass

¹The District has decided on an interim basis to use a SIL threshold for fugitive dust sources of 10.4 µg/m³ for the 24-hour average concentration and 2.08 µg/m³ for the annual concentration.

III. Conclusion

Unit 1-0

The Acute and Chronic Indices are below 1.0, and the Cancer Risk factor associated with each poultry barn is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, this unit is approved without Toxic Best Available Control Technology (T-BACT).**

Units 4-0, 5-0, 6-0

The Acute and Chronic Indices are below 1.0, and the Cancer Risk associated with these units is greater than 1.0 in a million, but less than 20 in a million. **In accordance with the District's Risk Management Policy, these units are approved with Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit requirements listed on Page 1 of this report must be included for units indicated.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

The ambient air quality impacts from PM₁₀ emissions at the modified poultry ranch does not exceed the District's 24-hour or Annual interim threshold for fugitive dust sources.

IV. Attachments

- A. RMR Request Form & Attachments
- B. Project Emails
- C. Modeled Variable Emission Rates
- D. Convert Calculations
- E. Prioritization
- F. RMR Risk Results
- G. Facility Summary
- H. AAQA Results