



APR 25 2017

Dave Duke
Foster Farms, Cerini Ranch
PO Box 831
Livingston, CA 95334

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: C-5442
Project Number: C-1162043

Dear Mr. Duke:

Enclosed for your review and comment is the District's analysis of Foster Farms, Cerini Ranch's application for Authority to Construct permits for the modification of permit unit C-5442-2 to replace 12 existing naturally ventilated broiler houses with 10 new mechanically ventilated broiler houses and to install a new 762 horsepower Tier 2 certified diesel engine to provide emergency power in the event of an electrical outage, at 19453 S Chateau Fresno Ave in Riverdale, 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 Ms. Gurpreet Brar of Permit Services at (559) 230-5926.

Sincerely,


Arnaud Marjollet
Director of Permit Services

AM:gb

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Replace Broiler Houses and Add Diesel-Fired Emergency
Standby IC Engine at a Poultry Ranch

| | | | |
|------------------|---|----------------|----------------|
| Facility Name: | Foster Farms, Cerini Ranch | Date: | March 30, 2017 |
| Mailing Address: | PO Box 831/1333 Swan St Livingston, CA 95334 | Engineer: | Gurpreet Brar |
| Contact Person: | Dave Duke | Lead Engineer: | Jerry Sandhu |
| Telephone: | (209) 394-5343 | | |
| E-Mail: | duked@fosterfarms.com | | |
| Application #: | C-5442-2-1 & -4-0 | | |
| Project #: | C-1162043 | | |
| Deemed Complete: | November 16, 2016 | | |

I. Proposal

The primary business of Foster Farms, Cerini Ranch is the production of broiler chickens to provide meat for human consumption. Foster Farms is applying for Authority to Construct (ATC) permits for the following:

ATC C-5442-2-1 (Broiler Ranch)

The facility is proposing to modify their existing broiler operation, which consists of 24 broiler houses that house 640,000 birds (see Appendix B for current permit C-5442-2-0). The facility proposes to replace 12 older naturally ventilated broiler houses for 320,000 birds with 10 new mechanically ventilated broiler houses (32,000 birds/house). There will be no overall increase in birds at the ranch and no overall increase in emissions from the broiler houses.

The new broiler houses will perform the same function as the houses being replaced. Half of the broiler houses at the site are being replaced, and according to the cost information provided by the applicant, the related cost will not result in a Reconstructed Source. Additionally, the broiler houses are addressed by a BARCT Rule (District Rule 4570 - Confined Animal Facilities). Therefore, pursuant to Section 3.35 of District Rule 2201, the replacement of the broiler houses at the broiler ranch are replacement emissions units and all the new broiler houses are exempt from Best Available Control Technology (BACT) requirements.

ATC C-5442-4-0 (Emergency IC Engine)

The facility is also proposing to install a 762 bhp Perkins Tier 2 certified diesel-fired IC engine to provide emergency power for the new mechanically ventilated broiler houses.

II. Applicable Rules

| | |
|--|--|
| Rule 1070 | Inspections (12/17/92) |
| Rule 2010 | Permits Required (12/17/92) |
| 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 4001 | New Source Performance Standards (4/14/99) |
| Rule 4002 | National Emission Standards for Hazardous Air Pollutants (5/20/04) |
| 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) |
| Rule 4701 | Internal Combustion Engines – Phase 1 (8/21/03) |
| Rule 4702 | Internal Combustion Engines (11/14/13) |
| Rule 4801 | Sulfur Compounds (12/17/92) |
| CH&SC 41700 | Health Risk Assessment |
| CH&SC 42301.6 | School Notice |
| Title 17 CCR, Section 93115 | - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines |
| 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 19453 S Chateau Fresno Ave in Riverdale, CA. The District has verified that 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

Broiler Ranch

Broilers are produced to meet specific requirements of the customer, which can be a retail grocery store, fast-food chain, or an institutional buyer. The process of raising broiler chickens in the proposed houses is similar to the practices at modern broiler ranches. The production cycle of broilers is divided into two phases: brooding and grow-out.

The brooding phase begins when freshly hatched chicks from local hatcheries are delivered by truck and placed in a heated section of a broiler house known as the brood chamber. The brood chamber of the house is maintained above 90°F for newly hatched chicks.

About 32,000 chicks will be released into each new house at the beginning of each grow-out period. The chicks will be placed on fresh litter in the front half of the house opposite the tunnel-ventilation fans for 10 days. During the birds' first few weeks of growth, the temperature is gradually decreased. Once the birds need floor space, the remaining half of the house is opened and the chicks are fed out to market weight. After completion of the grow-out phase the broilers are transported by truck to a nearby processing plant. Typically, all of the houses within a ranch complex will be populated with chicks, and depopulated with mature birds within the same few days.

All broiler chickens in the house are the same age and will be removed from the house at the same time. Typically, about 4.5 to 5 percent of the broilers in a house will die (mortality) during the grow-out cycle. Mortality must be removed from each house at least daily during the grow-out cycle to prevent the spread of disease. The length of the grow-out phase for the broiler chickens is approximately 45 days, resulting in an average weight of 4.5 to 5.5 pounds. Broiler houses will be empty of chickens for approximately 10 days between flocks to allow for cleaning and maintenance. This results in a cycle time of about 55 days per flock. Typically, six flocks per year are grown in each broiler house.

Broiler Housing

Broilers are raised in either totally or partially enclosed housing with a compacted soil floor covered with dry bedding. The new broiler houses at this site will be constructed with earthen floors, wood framing, and corrugated metal roofing and siding. The ceiling and walls will be insulated. Each house will be 500 feet long and 48 feet wide. As stated above, about 32,000 chicks will be released into each new house at the beginning of each grow-out period. The birds will be able to move about freely in the heated front section of the house. As the birds grow and require less heat, the other half of the house is opened to allow them to have more space. Water and feed will be provided to the birds throughout the grow-out period. Propane heaters and evaporative cooling pads will be utilized to control temperature within the broiler houses.

In broiler houses, ventilation is used to remove moisture and ammonia from the houses during the winter season and to remove excess heat and ammonia from the houses during the summer season. Partially enclosed housing structures have open sidewalls with curtains that are opened and closed to control the house ventilation rate. All of the new houses will be totally enclosed. In totally enclosed housing, mechanical ventilation is used. Mechanical ventilation is typically provided by an induced draft or negative-pressure system. An induced draft system pulls fresh air into the house from one end and exhausts on the other. A negative-pressure system draws fresh air into the house from side vents and out through the exhaust fan. Totally enclosed mechanically ventilated housing is known as tunnel-type housing or environmental housing.

The proposed houses will have an advanced environmental control system that uses thermostats, sensors, and timers to more effectively control their exhaust fans. Environmental conditions (e.g. temperature, humidity, ventilation, lighting) within the proposed houses will be controlled by a computer system. The ranch staff will also monitor the conditions within the houses.

Broiler Manure Management

Although the facility is not modifying its solid manure handling permit (C-5442-3), the District's broiler emission factors include combined emissions from broiler housing and manure handling. Therefore, the facility's manure management handling will be discussed. All broiler chickens are raised unconfined within the houses on dry bedding (litter). Litter can be sawdust, wood shavings, rice hulls, chopped straw, peanut hulls, or other products, depending on availability and cost. Foster Farms typically uses rice hulls for litter. Manure that is excreted by birds has a high water content. The main function of the litter is to absorb the moisture excreted by the birds.

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. Moisture from manure and waterers binds the mixture of litter and manure together forming cake. Broiler houses are partially cleaned between each flock to remove the cake. The remaining litter may be "top dressed" with an inch or so of new bedding material.

Typically, the litter (bedding and manure) is only completely cleaned from broiler houses every one to three years after at least 6 flocks, with a trend towards performing complete clean-outs less than annually. Barring unusual events (such as avian disease outbreaks), litter in the proposed houses will be completely cleaned out twice a year after only 3 flocks have been raised on the litter. At Foster Farms, Cerini Ranch used litter is completely cleaned out of the brood chamber and moved to the other half of the house before chicks are placed. In the proposed houses, chicks will always be placed on fresh litter in the brood chamber. After complete clean-outs and brood chamber clean-outs, the removed litter is replaced with fresh litter. 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 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. The manure handling system permit will not be modified in this project as there is no change in the manure handling process and total number of broilers at the ranch.

Emergency IC Engine

The proposed emergency engine will power an electric generator for the Foster Farms, Cerini Ranch. The electric generator is necessary to prevent catastrophic loss of broilers by maintaining ventilation in the enclosed broiler houses during power failures. Other than emergency operation, the engine may be operated up to 100 hours per year for maintenance and testing purposes.

V. Equipment Listing

Pre-Project Equipment Description:

C-5442-2-0: BROILER RANCH CONSISTING OF 640,000 BROILERS; 24 NATURALLY VENTILATED POULTRY HOUSES, INCLUDING ELECTRIC FANS/EQUIPMENT TOTALING 240 HP

Proposed Modification:

C-5442-2-1: MODIFICATION OF 640,000 BROILER RANCH CONSISTING OF 24 NATURALLY VENTILATED BROILER HOUSES, INCLUDING ELECTRIC FANS TOTALING 240 HP: REPLACE 12 NATURALLY VENTILATED BROILER HOUSES FOR 320,000 BIRDS WITH 10 MECHANICALLY VENTILATED BROILER HOUSES FOR 320,000 BIRDS (32,000 BIRDS/HOUSE), INCLUDING ELECTRIC FANS TOTALING 160 HP

Post-Project Equipment Description:

C-5442-2-1: 640,000 BROILER RANCH CONSISTING OF 12 NATURALLY VENTILATED BROILER HOUSES AND 10 MECHANICALLY VENTILATED BROILER HOUSES, INCLUDING ELECTRIC FANS TOTALING 280 HP

C-5442-4-0: 762 BHP (INTERMITTENT) PERKINS MODEL 2506C-E15TAG3 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

Broiler Ranch

The principle pollutants emitted from broiler houses are Volatile Organic Compounds (VOC), ammonia (NH₃), and particulate matter (PM) that is 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 ammonia, VOC, and particulate matter carried out of the broiler house. During the growth of the flock, continuous airflow removes ammonia and other gases and reduces the moisture content of freshly excreted manure. The constant volatilization and removal of ammonia from the broiler houses results in lower nitrogen content of the litter.

The applicant has proposed the following management practices to reduce gaseous emissions from the new broiler houses: feeding the birds in accordance with NRC or other District approved guidelines to minimize nutrient excretion and implement mitigation measures to reduce VOC as required by District Rule 4570.

Emergency IC Engine

The applicant has proposed to install Tier 2 certified diesel-fired IC engine that will be fired on very low-sulfur diesel fuel.

The proposed engine meets the latest Tier Certification requirements; therefore, the engine meets the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide (see Appendix C for a copy of the emissions data sheet).

The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO_x emissions by over 99% from standard diesel fuel.

VII. General Calculations

A. Assumptions

Broiler Ranch (10 New Houses)

| | |
|--|---------------------------------------|
| Pre-project ranch capacity: | 640,000 broilers (per current permit) |
| Post-project ranch capacity: | 640,000 broilers (per applicant) |
| Operating schedule: | 24 hours/day |
| Total fan rating of each existing house | 10 hp/house (per current permit) |
| Total fan rating of each new house | 16 hp/house (per applicant) |
| Max. number of birds in replaced house: | 26,667 birds/house |
| Max. number of birds in new house: | 32,000 birds/house |
| Min. broiler house ventilation rate: | 24,000 cfm (per applicant) |
| 50% of total particulate matter emitted from the houses are PM ₁₀ | |

Emergency IC Engine

| | |
|--|--------------------|
| Emergency operating schedule: | 24 hours/day |
| Non-emergency operating schedule: | 100 hours/year |
| Density of diesel fuel: | 7.1 lb/gal |
| EPA F-factor (adjusted to 60 °F): | 9,051 dscf/MMBtu |
| Fuel heating value: | 137,000 Btu/gal |
| BHP to Btu/hr conversion: | 2,542.5 Btu/bhp-hr |
| Thermal efficiency of engine: | commonly ≈ 35% |
| PM ₁₀ fraction of diesel exhaust: | 0.96 (CARB, 1988) |
| Conversion factor: | 1.34 bhp/kw |

The engine has certified NO_x + VOC emissions of 3.73 g/bhp-hr. It will be assumed the NO_x + VOC emission factor is split 95% NO_x and 5% VOC (per the Carl Moyer program).

B. Emission Factors

C-5442-2-1 (Broiler Ranch)

The emission factors for a broiler ranch are on a per head basis, and account for multiple sources of emissions. That is, emissions from the broiler housing and solid manure handling are included in each emission factor. Therefore, when calculating emissions from the broiler ranch, the emissions from these distinct operations are calculated together, and the uncontrolled emissions factors are shown in the table below:

| Uncontrolled Emission Factors for Broiler Ranch | | |
|---|----------------|---|
| | (lb/bird-year) | Source |
| PM ₁₀ | 0.02 | R.E. Lacey ¹ |
| VOC | 0.025 | Rule 4570 Staff Report |
| NH ₃ | 0.0958 | CARB Source Test Results for California Broiler Houses ² |

The facility currently implements, and will continue to implement the following mitigation measures as originally proposed under project #C-1103356. The VOC control efficiency for each mitigation measure is shown in the table below:

| 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 this mitigation measure, although emissions reductions are expected.

¹ "Particulate Matter and Ammonia Emission Factors for tunnel-Ventilated broiler houses in the Southern US", R.E. Lacey, J.S. Redwine, C.B Parnell, Jr.

² "Quantification of Gaseous Emissions from California Broiler Production Houses" - Source tests were conducted on mechanically ventilated broiler houses during the spring and fall of 2004. The participants in the project include the following: AIRx Testing; California Air Resources Board; California Department of Food and Agriculture; California Poultry Federation; Foster Farms; & University of California, Davis - Animal Science.

Controlled Emission Factors

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

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

There is no control applied to the NH₃ and PM₁₀ emission factors. The pre-project and post-project emission factors for the broiler ranch are summarized in the following table.

| Controlled Emission Factors for Broiler Ranch | | |
|---|----------------|--|
| | (lb/bird-year) | Source |
| PM ₁₀ | 0.02 | R.E. Lacey |
| VOC | 0.016 | Rule 4570 Staff Report |
| NH ₃ | 0.0958 | CARB Source Test Results for California Broiler Houses |

C-5442-4-0 (Emergency IC Engine)

The pre-project emission factors are zero and post-project emission factors are as shown in the following table:

| Emission Factors for Diesel-fired IC Engine | | |
|---|----------------------------|--------------------------------------|
| Pollutant | Emission Factor (g/bhp-hr) | Source |
| NO _x | 3.54 | Engine Manufacturer (see Appendix C) |
| SO _x | 0.0051 | Mass Balance Equation Below |
| PM ₁₀ | 0.05 | Engine Manufacturer (see Appendix C) |
| CO | 1.06 | |
| VOC | 0.19 | |

$$\frac{0.000015 \text{ lb-S}}{\text{lb-fuel}} \times \frac{7.1 \text{ lb-fuel}}{\text{gallon}} \times \frac{2 \text{ lb-SO}_2}{1 \text{ lb-S}} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{2,542.5 \text{ Btu}}{\text{hp} \cdot \text{hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0051 \frac{\text{g-SO}_x}{\text{bhp-hr}}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

C-5442-2-0 (Broiler Ranch)

The potential to emit for the existing broiler houses is calculated based on the maximum number of birds that can be housed at the ranch prior to the modification.

| Pre-Project Potential to Emit (PE1) for Broiler Ranch | | | | | | | | | |
|---|---------------|---|----------------------|---|------------------|---|-----------------|---|-----------------|
| Pollutant | # of Broilers | x | EF (lb/bird-year) | = | PE1 (lb/year) | ÷ | 365 day/year | = | PE1 (lb/day) |
| PM ₁₀ | 640,000 | x | 0.02 | = | 12,800 | ÷ | 365 | = | 35.1 |
| VOC | 640,000 | x | 0.016 | = | 10,240 | ÷ | 365 | = | 28.1 |
| NH ₃ | 640,000 | x | 0.0958 | = | 61,312 | ÷ | 365 | = | 168.0 |

C-5442-4-0 (Emergency IC Engine)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

C-5442-2-1 (Broiler Ranch)

New Broiler Houses (10 Total Houses):

PE2 for each of the new broiler houses is calculated as shown below:

| Post-Project Potential to Emit (PE2) for Each New Broiler House | | | | | | | | | |
|---|---------------|---|----------------------|---|------------------|---|-----------------|---|-----------------|
| Pollutant | # of Broilers | x | EF (lb/bird-year) | = | PE2 (lb/year) | ÷ | 365 day/year | = | PE2 (lb/day) |
| PM ₁₀ | 32,000 | x | 0.02 | = | 640 | ÷ | 365 | = | 1.8 |
| VOC | 32,000 | x | 0.016 | = | 512 | ÷ | 365 | = | 1.4 |
| NH ₃ | 32,000 | x | 0.0958 | = | 3,066 | ÷ | 365 | = | 8.4 |

Broiler Ranch:

There is no change in the maximum number of birds that can be housed at the ranch after the modification; therefore, PE2 is calculated in the table on the following page:

| Post-Project Potential to Emit (PE2) for Broiler Ranch | | | | | | | | | |
|--|---------------|---|--------------------------|---|------------------|---|-----------------|---|-----------------|
| Pollutant | # of Broilers | x | EF (lb/bird- year) | = | PE2 (lb/year) | ÷ | 365 day/year | = | PE2 (lb/day) |
| PM ₁₀ | 640,000 | x | 0.02 | = | 12,800 | ÷ | 365 | = | 35.1 |
| VOC | 640,000 | x | 0.016 | = | 10,240 | ÷ | 365 | = | 28.1 |
| NH ₃ | 640,000 | x | 0.0958 | = | 61,312 | ÷ | 365 | = | 168.0 |

C-5442-4-0 (Emergency IC Engine)

The daily and annual PE2 is calculated as follows:

$$\text{Daily PE2 (lb-pollutant/day)} = \text{EF (g-pollutant/bhp-hr)} \times \text{rating (bhp)} \\ \times \text{operation (hr/day)} / 453.6 \text{ g/lb}$$

$$\text{Annual PE2 (lb-pollutant/year)} = \text{EF (g-pollutant/bhp-hr)} \times \text{rating (bhp)} \\ \times \text{operation (hr/year)} / 453.6 \text{ g/lb}$$

| Post-Project Emissions (PE2) for Diesel-fired IC Engine | | | | | | |
|---|-----------------------------------|-----------------|--|---|-----------------------|-------------------------|
| Pollutant | Emissions Factor (g/bhp-hr) | Rating (bhp) | Daily Hours of Operation (hrs/day) | Annual Hours of Operation (hrs/year) | Daily PE2 (lb/day) | Annual PE2 (lb/year) |
| NO _x | 3.54 | 762 | 24 | 100 | 142.7 | 595 |
| SO _x | 0.0051 | 762 | 24 | 100 | 0.2 | 1 |
| PM ₁₀ | 0.05 | 762 | 24 | 100 | 2.0 | 8 |
| CO | 1.06 | 762 | 24 | 100 | 42.7 | 178 |
| VOC | 0.19 | 762 | 24 | 100 | 7.7 | 32 |

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.

| SSPE1 (lb/year) | | | | | | |
|-----------------|-----------------|-----------------|------------------|----------|---------------|-----------------|
| Permit Unit | NO _x | SO _x | PM ₁₀ | CO | VOC | NH ₃ |
| C-5442-2-0 | 0 | 0 | 12,800 | 0 | 10,240 | 61,312 |
| C-5442-3-0* | 0 | 0 | 0 | 0 | 0 | 0 |
| SSPE1 | 0 | 0 | 12,800 | 0 | 10,240 | 61,312 |

*As discussed in Section VII.B, the potential emissions for the solid manure handling system (permit unit - 3) are included in the potential emissions from the broiler ranch (permit unit -2).

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 |
| C-5442-2-1 | 0 | 0 | 12,800 | 0 | 10,240 | 61,312 |
| C-5442-3-0* | 0 | 0 | 0 | 0 | 0 | 0 |
| C-5442-4-0 | 595 | 1 | 8 | 178 | 32 | 0 |
| SSPE2 | 595 | 1 | 12,808 | 178 | 10,272 | 61,312 |

*As discussed in Section VII.B, the potential emissions for the solid manure handling system (permit unit - 3) are included in the potential emissions from the broiler ranch (permit unit -2).

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

Since agricultural operations do not fall under any of the specific source categories specified in 40 CFR 51.165, fugitive emissions are not counted when determining if an agricultural operation is a major source.

For pre-project emissions, because all birds at this facility were housed inside naturally ventilated buildings, the emissions are fugitive. Therefore, emissions from the poultry housing will not be used to determine if this facility is a major source prior to the modification.

However, since half of the birds at this facility will be housed inside new mechanically ventilated buildings after the modification, emissions can be reasonably collected and are no longer considered fugitive. Therefore, only the non-fugitive emissions from the birds housed in new broiler houses at the broiler ranch will be used to determine if this facility is a major source after the modification.

| Non-Fugitive Emissions from the Broiler Ranch | | | | | |
|---|---------------|---|-------------------|---|--------------|
| Pollutant | # of Broilers | x | EF (lb/bird-year) | = | PE (lb/year) |
| PM ₁₀ | 320,000* | x | 0.02 | = | 6,400 |
| VOC | 320,000* | x | 0.016 | = | 5,120 |

*(640,000)/2 = 320,000 broilers in new houses

| Rule 2201 Major Source Determination (lb/year) | | | | | | |
|---|-----------------|-----------------|------------------|-------------------|---------|--------|
| | NO _x | SO _x | PM ₁₀ | PM _{2.5} | CO | VOC |
| Non-Fugitive SSPE1 | 0 | 0 | 0 | 0 | 0 | 0 |
| C-5442-2-1* | 0 | 0 | 6,400 | 6,400 | 0 | 5,120 |
| C-5442-3-0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C-5442-4-0 | 595 | 1 | 8 | 8 | 178 | 32 |
| Non-Fugitive SSPE2 | 595 | 1 | 6,408 | 6,408 | 178 | 5,152 |
| Major Source Threshold | 20,000 | 140,000 | 140,000 | 140,000 | 200,000 | 20,000 |
| Major Source? | No | No | No | No | No | No |

*Non-Fugitive emissions are calculated in the previous table.

Note: PM2.5 assumed to be equal to 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 tpy for any regulated NSR pollutant.

| PSD Major Source Determination (tons/year) | | | | | | |
|--|-----------------|-----|-----------------|-----|-----|------------------|
| | NO ₂ | VOC | SO ₂ | CO | PM | PM ₁₀ |
| Estimated Facility PE before Project Increase* | 0 | 0 | 0 | 0 | 0 | 0 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | 250 | 250 |
| PSD Major Source ? (Y/N) | N | N | N | N | N | N |

*Fugitive emissions from the broiler ranch as discussed on the previous page in the District Rule 2201 Major Source determination.

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.

C-5442-2-1:

As calculated in Section VII.C.1 above, PE1 is summarized in the following table:

| BE (lb/year) | | | | | | |
|--------------|-----------------|-----------------|------------------|-------------------|----|--------|
| | NO _x | SO _x | PM ₁₀ | PM _{2.5} | CO | VOC |
| C-5442-2-1 | 0 | 0 | 12,800 | 12,800 | 0 | 10,240 |

C-5442-4-0:

Since this is a new emissions unit, BE = PE1 = 0 for all 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)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- 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 equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

| PSD Major Source Determination: Potential to Emit (tons/year) | | | | | | |
|--|-----------------|-----|-----------------|-----|-----|------------------|
| | NO ₂ | VOC | SO ₂ | CO | PM | PM ₁₀ |
| Total PE from New and Modified Units* | 0.3 | 2.6 | 0.0 | 0.1 | 3.2 | 3.2 |
| PSD Major Source threshold | 250 | 250 | 250 | 250 | 250 | 250 |
| New PSD Major Source? | N | N | N | N | N | N |

*Equivalent to the non-fugitive SSPE2 (lb/year) calculated in major source determination table in Section C.VII.5.

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 F.

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 the ATCs 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 these rules and regulations.

The facility has obtained all required Air District permits and is in compliance with the requirements of this rule.

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

As stated in Section I of this evaluation, the applicant is proposing to replace 12 older naturally ventilated broiler houses for 320,000 birds with 10 new mechanically ventilated broiler houses for 320,000 birds and to install a new diesel-fired IC engine at the existing broiler ranch.

C-5442-2-1 (Broiler Ranch)

Each individual broiler house operates independently and has separate exhaust ventilation; therefore, each house is a distinct emissions unit. Although each new broiler house will have a larger capacity than each house being replaced, there will be no increase in capacity since there will be two fewer broiler houses at the site after completion of the project.

District Rule 2201, 3.35 stipulates that the following conditions must be met for replacement of equipment with a valid District permit to qualify as a replacement emissions unit:

- 1) There is no increase in permitted emissions from the replacement units.
- 2) There is no increase in design capacity, unless an old part is no longer available in which case the replacement can result in a design capacity increase of up to 10%. No change to the permitted throughput or emission is authorized due to a change in design capacity as part of a replacement.
- 3) The replacement equipment performs the same function as the equipment being replaced.
- 4) The replacement does not constitute a Reconstructed Source (as defined by Rule 2201) or Reconstruction (as defined by any applicable New Source Performance Standard). Reconstructed Source cost shall include only the cost of all emission-producing equipment and associated integral activities at the stationary source.
- 5) When the entire emissions unit is replaced as a routine replacement action, the emissions unit shall either have been addressed by a BARCT rule or shall be equipped with a control device capable of at least 85% emission control.

After the proposed replacement of the broiler houses, there will be no increase in the capacity to hold birds at the site. The capacity before and after the modification will be 640,000 birds. Because there is no increase in bird holding capacity, there will be no increase in PM₁₀, VOC, or NH₃ emissions from the broiler houses. Additionally, the new broiler houses will perform the same function as the houses being replaced and the broiler houses are addressed by a BARCT Rule (District Rule 4570 - Confined Animal Facilities).

For the proposed project, less than half of the broiler houses at the facility will be replaced and the applicant has provided information demonstrating that cost of the proposed project will not result in a Reconstructed Source. According to the applicant, the construction cost for rebuilding a broiler house is approximately \$30.44 per square foot. The proposed project will require 240,000 square feet of broiler housing to be built. The facility has provided an estimated capital cost of \$7,305,600 for the proposed project, and \$14,826,645 to rebuild the entire Stationary Source.

As can be seen, even when the costs of other integral activities at the site are not included, the cost of the proposed house will be less than half of the cost of constructing a similar entirely new Stationary Source; therefore the facility will not be a Reconstructed Source.

Therefore, pursuant to Section 4.2.6 of District Rule 2201, BACT will not be required for the replacement of the broiler houses.

C-5442-4-0 (Emergency IC Engine)

The IC engine is a new emissions unit. As seen in Section VII.C.2 above, the applicant is proposing to install a new diesel-fired IC engine with a PE greater than 2 lb/day for NO_x, CO and VOC. BACT is triggered for NO_x and VOC only since the PEs are greater than 2 lb/day. However BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

| BACT Applicability for New Emergency IC Engine | | | | |
|---|-----------------------------------|------------------------------------|---------------|-----------------|
| Pollutant | Daily Emissions for unit (lb/day) | BACT Threshold (lb/day) | SSPE2 (lb/yr) | BACT Triggered? |
| NO _x | 142.7 | > 2.0 | n/a | Yes |
| SO _x | 0.2 | > 2.0 | n/a | No |
| PM ₁₀ | 2.0 | > 2.0 | n/a | No |
| CO | 42.7 | > 2.0 and SSPE2 ≥ 200,000 lb/yr | 178 | No |
| VOC | 7.7 | > 2.0 | n/a | Yes |

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 discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered for modification of an emissions unit.

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.

2. BACT Guideline

C-5442-4-0 (Emergency IC Engine)

BACT Guideline 3.1.1, which appears in Appendix D of this report, covers diesel-fired emergency IC engines.

3. Top-Down BACT Analysis

Per District Policy APR 1305, Section IX, "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 for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

C-5442-4-0 (Emergency IC Engine)

Pursuant to the attached Top-Down BACT Analysis (see Appendix D), BACT for the proposed emergency IC engine has been satisfied with the following:

NO_x: Latest Available Tier Certification level for applicable horsepower*
VOC: Latest Available Tier Certification level for applicable horsepower*

*Note: The certification requirements for emergency engines are as follows: 50 ≤ bhp < 75 - Tier 4I; 75 ≤ bhp < 750 - Tier 3; ≥ 750 bhp - Tier 2.

The facility has proposed to install a 762 bhp Tier 2 certified engine which is the latest Tier certification required to satisfy BACT. Therefore, BACT is satisfied for NO_x and VOC. The following conditions will be listed on the ATC to ensure compliance:

- {4771} Emissions from this IC engine shall not exceed any of the following limits: 3.54 g-NO_x/bhp-hr, 1.06 g-CO/bhp-hr, or 0.19 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
- {4772} Emissions from this IC engine shall not exceed 0.05 g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]

B. Offsets

1. Offset Applicability

Pursuant to Section 4.6.9 of this rule, offsets are not required for agricultural sources that are not major sources. As demonstrated in Section VII.C.5 above, the agricultural operation in this project is not a major source; therefore, this exemption is applicable to this project.

However, even when there is an applicable exemption, the SSPE2 values are compared to the offset threshold to determine if offsets are triggered. In its PAS database, the District keeps track of facilities where offsets are triggered but an exemption applies. The SSPE2 values are compared to the offset trigger thresholds in the following table:

| Offset Determination (lb/year) | | | | | |
|--------------------------------|-----------------|-----------------|------------------|---------|--------|
| | NO _x | SO _x | PM ₁₀ | CO | VOC |
| SSPE2 | 595 | 1 | 12,808 | 178 | 10,272 |
| Offset Thresholds | 20,000 | 54,750 | 29,200 | 200,000 | 20,000 |
| Offsets triggered? | No | No | No | No | No |

2. Quantity of Offsets Required

As shown in the table above, no offset thresholds are exceeded with this project. Further, as previously stated, the offset exemption from Section 4.6.9 of District Rule 2201 is applicable to this project; therefore, offset calculations are not necessary and offsets are not required.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed,
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant, and/or
- e. 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. Since this is not a new facility, 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

C-5442-2-1 (Broiler Ranch):

As stated above under Rule 2201 Compliance Section A.1.a (BACT Applicability), each individual broiler house is an emissions unit. The emissions from each new broiler house are calculated in the following table:

| Daily Post-Project Potential to Emit (PE) for Each New Broiler House | | | | | | | |
|---|--------------------------|---|-------------------------------------|---|------------|---|----------------|
| Pollutant | Capacity (bird/house) | x | Emissions Factor (lb/bird-yr) | ÷ | 365 day/yr | = | PE (lb/day) |
| PM ₁₀ | 32,000 | x | 0.02 | ÷ | 365 | = | 1.8 |
| VOC | 32,000 | x | 0.016 | ÷ | 365 | = | 1.4 |
| NH ₃ | 32,000 | x | 0.0958 | ÷ | 365 | = | 8.4 |

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

| PE > 100 lb/day Public Notice Thresholds (Broiler Houses) | | | |
|---|-----------------------------|----------------------------|-----------------------------|
| Pollutant | PE ₂ (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 | 1.4 | 100 lb/day | No |
| NH ₃ | 8.4 | 100 lb/day | No |

Since the PE is below 100 lb/day for each pollutant, public noticing for PE > 100 lb/day purposes is not required for the new broiler houses.

C-5442-4-0 (Emergency IC Engine)

The PE₂ for the IC engine is compared to the daily PE Public Notice thresholds in the following table:

| PE > 100 lb/day Public Notice Thresholds (IC Engine) | | | |
|--|-----------------------------|----------------------------|-----------------------------|
| Pollutant | PE ₂ (lb/day) | Public Notice Threshold | Public Notice Triggered? |
| NO _x | 142.7 | 100 lb/day | Yes |
| SO _x | 0.2 | 100 lb/day | No |
| PM ₁₀ | 2.0 | 100 lb/day | No |
| CO | 42.7 | 100 lb/day | No |
| VOC | 7.7 | 100 lb/day | No |

As shown in the table on the previous page, public noticing for PE > 100 lb/day purposes is 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 | 0 | 595 | 20,000 lb/year | No |
| SO _x | 0 | 1 | 54,750 lb/year | No |
| PM ₁₀ | 12,800 | 12,808 | 29,200 lb/year | No |
| CO | 0 | 178 | 200,000 lb/year | No |
| VOC | 10,240 | 10,272 | 20,000 lb/year | No |

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

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 | 595 | 0 | 595 | 20,000 lb/year | No |
| SO _x | 1 | 0 | 1 | 20,000 lb/year | No |
| PM ₁₀ | 12,808 | 12,800 | 8 | 20,000 lb/year | No |
| CO | 178 | 0 | 178 | 20,000 lb/year | No |
| VOC | 10,272 | 10,240 | 32 | 20,000 lb/year | No |
| NH ₃ | 61,312 | 61,312 | 0 | 20,000 lb/year | No |

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not 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.

2. Public Notice Action

As discussed above, public noticing is required for this project for NO_x emissions in excess of 100 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC 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.

C-5442-2-1 (Broiler Ranch)

For the broiler ranch, the DEL is based on the maximum number of broilers housed at the ranch and the management practices the facility will implement. The maximum number of broilers at the ranch will be listed in the equipment description for ATC C-5442-2-1. There are controls applied to the VOC emission factors; therefore, the following conditions will be listed on the ATC to ensure compliance:

- 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]

C-5442-4-0 (Emergency IC Engine)

For the emergency IC engine, the DELs are stated in the form of emission factors, the maximum engine horsepower rating, and the maximum operational time of 24 hours per day. The following conditions will be listed on the ATC to ensure compliance:

- {4771} Emissions from this IC engine shall not exceed any of the following limits: 3.54 g-NOx/bhp-hr, 1.06 g-CO/bhp-hr, or 0.19 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
- {4772} Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]
- {4258} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]

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

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. Therefore, the following conditions will be listed on the ATCs to ensure compliance:

C-5442-2-1 (Broiler Ranch)

- Permittee shall maintain a record of the number of animals of each species and production group at the facility and shall maintain quarterly records of any changes to this information. [District Rules 2201 and 4570]
- 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 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]

C-5442-4-0 (Emergency IC Engine)

Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, District Rule 4702, of this evaluation.

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 E of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment 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 equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

Therefore, the requirements for an AAQA are satisfied for this project.

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 4001 New Source Performance Standards (NSPS)

40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The requirements of 40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* are applicable to stationary engines at agricultural and non-agricultural facilities. The District has not been delegated the authority to implement this NSPS regulations for non-Major Sources; therefore, compliance with the provisions of Subpart IIII will not be demonstrated for the engine in this project.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)

The requirements of 40 CFR Part 63, Subpart ZZZZ – *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* are applicable to stationary engines at agricultural and non-agricultural facilities. The District has not been delegated the authority to implement Area Source requirements from NESHAP regulations for non-Major Sources; therefore, compliance with the provisions of Subpart ZZZZ will not be demonstrated for the engine in this project.

Rule 4101 Visible Emissions

Section 5.0 stipulates 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).

C-5442-2-1 (Broiler Ranch)

Pursuant to Section 4.12, emissions subject to or specifically exempt from Regulation VIII (Fugitive PM10 Prohibitions) are considered to be exempt.

Pursuant to District Rule 8081, Section 4.1, on-field agricultural sources are exempt from the requirements of Regulation VIII.

An on-field agricultural source is defined in Rule 8011, Section 3.35 as the following:

Activities conducted solely for the purpose of preparing land for the growing of crops or **the raising of fowl or animals**, such as brush or timber clearing, grubbing, scraping, ground excavation, land leveling, grading, turning under stalks, disking, or tilling;

Therefore, the broiler houses are exempt from the requirements of Regulation VIII and Rule 4101.

C-5442-4-0 (Emergency IC Engine)

The following condition will be listed on the ATC to ensure compliance:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

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.

C-5442-2-1 (Broiler Ranch)

Per Section 3.1, the provisions of this rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowl or animals as defined in Rule 4103 (Open Burning).

Therefore, the broiler houses are exempt from the requirements of this Rule.

C-5442-4-0 (Emergency IC Engine)

The following condition will be listed on the ATC to ensure compliance:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Risk Management Review (RMR) for this project (Appendix E), 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 district has performed an AAQA and a RMR for the proposed diesel-fired emergency IC engine (ATC C-5442-4-0) powering the mechanically ventilated broiler houses. The facility is also proposing to modify their existing broiler operation (ATC C-5442-2-1) by replacing the broiler houses with no overall increase in birds at the ranch, no overall increase in emissions from the broiler houses, and the proposed broiler houses will be built on the footprints of the existing houses. Per District policy APR 1905, routine replacement units are not subject of a RMR if there is no increase in permitted emissions. Therefore no HRA was performed for permit unit C-5442-2.

The cancer risk for this project is shown below:

| HRA Summary | | |
|-------------|-------------------|-----------------|
| Unit | Cancer Risk | T-BACT Required |
| C-5442-4-0 | 0.121 per million | No |

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk 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 E of this report, the emissions increases for this project was determined to be less than significant.

To ensure that human health risks will not exceed District allowable levels; the following conditions shall be included on ATC C-5442-4-0:

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
- {4772} Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]
- This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rules 2201, 4102 and 4702]

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

C-5442-2-1 (Broiler Ranch)

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

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

$$\begin{aligned} \text{PM}_{10} \text{ emission rate for each existing house} &= 17.6^3 \text{ lb-PM}_{10}/\text{day} \div 12 \text{ houses} \\ &= 1.5 \text{ lb-PM}_{10}/\text{house-day} \end{aligned}$$

$$\begin{aligned} \text{PM}_{10} \text{ emission rate for each new house} &= 17.6 \text{ lb-PM}_{10}/\text{day} \div 10 \text{ houses} \\ &= 1.8 \text{ lb-PM}_{10}/\text{house-day (worst-case emissions)} \end{aligned}$$

PM emission rate for each house (Assuming 50% of PM is PM₁₀):

$$\begin{aligned} &= 1.8 \text{ lb-PM}_{10}/\text{house-day} \times 2 \text{ lb-PM/lb-PM}_{10} \\ &= 3.6 \text{ lb-PM/day} \end{aligned}$$

Minimum house ventilation rate = 24,000 scfm (per applicant)

$$\text{PM Conc. (gr/scf)} = [(3.6 \text{ lb/day}) \times (7,000 \text{ gr/lb})] \div [(24,000 \text{ ft}^3/\text{min}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})]$$

$$\text{PM Conc.} = 0.0007 \text{ gr/scf} < 0.1 \text{ gr/scf}$$

As shown above, PM emissions concentration is below the applicable limit for new and existing houses. Therefore, compliance with the requirements of this rule is expected.

³ As the facility is proposing to replace half of the broilers houses, PM10 from the new broiler houses is equal to half of the PM10 emissions from the existing houses. $((35.1 \text{ lb-PM}_{10}/\text{day}) / 2) = 17.6 \text{ lb-PM}_{10}/\text{day}$

C-5442-4-0 (Emergency IC Engine)

Rule 4201 limits particulate matter emissions from any single source operation to 0.1 g/dscf, which, as calculated below, is equivalent to a PM₁₀ emission factor of 0.4 g-PM₁₀/bhp-hr.

$$0.1 \frac{\text{grain-PM}}{\text{dscf}} \times \frac{\text{g}}{15.43 \text{ grain}} \times \frac{1 \text{ Btu}_{in}}{0.35 \text{ Btu}_{out}} \times \frac{9,051 \text{ dscf}}{10^6 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{1 \text{ bhp-hr}} \times \frac{0.96 \text{ g-PM}_{10}}{1 \text{ g-PM}} = 0.4 \frac{\text{g-PM}_{10}}{\text{bhp-hr}}$$

The proposed engine has a PM₁₀ emission factor less than 0.4 g/bhp-hr, compliance with Rule 4201 is expected.

The following condition will be listed on the ATCs to ensure compliance:

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

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

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 received District approval for its CMP plan on August 29, 2005. Continued compliance with the requirements of District Rule 4550 is expected.

Rule 4570 Confined Animal Facilities (CAF)

C-5442-2-1 (Broiler Ranch)

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).

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 5.1.3, owners/operators of any CAF shall include an emission mitigation plan within the permit application that lists the VOC mitigation measures that the facility will use to comply with all applicable requirements of Sections 5.5 or 5.6.

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. Since the facility is building new poultry houses, they will be required to implement all VOC emission mitigation measures at the time of initial operation.

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

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

Pursuant to Section 8.2 any owner/operator of new or modified facilities that become subject to the Regulatory Threshold requirements of this rule under Table 2 shall comply with the Phase II requirements of Section 6.0.

Pursuant to Table 2, this facility with a maximum bird capacity of 640,000 is a large CAF and is subject to Section 5.6 of the rule.

Based on initial permit application form processed under project #C-1103356, the applicant has selected the following Phase II mitigation measures to comply with the requirements of this Rule (only the mitigation measures selected by the applicant are shown from Table 4.6 below):

| Table 4.6 – Broiler, Duck, or Turkey Phase II Mitigation Measure Requirements | |
|---|--|
| A. Feed: Owners/operators of a broiler, duck, or turkey CAF shall implement at least one (1) of the following feed mitigation measures: | |
| 1. | a. Feed according to NRC guidelines; or |
| B. Housing: | |
| 1. | Use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues, pursuant to Section 5.4. |
| 2. | Use drinkers that do not drip continuously. |
| 3. | Inspect drinkers at least once every seven (7) days and adjust the height, volume, and location of drinkers if necessary. |
| 4. | Inspect water pipes and drinkers and repair leaks daily. |
| C. Solid Manure/Separated Solids: | |
| 1. | 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. |

Based on the mitigation measures selected by the applicant, the following conditions will be included on the ATC to ensure compliance:

- {4452} If a licensed veterinarian, a certified nutritionist, the California Department of Food and Agriculture (CDFA), or the United States Department of Agriculture (USDA) determines that any VOC mitigation measure (with a Rule 4570 reference) is detrimental to animal health and needs to be suspended, the Permittee 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]
 - Permittee shall maintain a record of the number of animals of each species and production group at the facility 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]
- Feed according to National Research Council (NRC) guidelines.
- Permittee shall feed all animals according to National Research Council (NRC) guidelines. [District Rules 2201 and 4570]
 - 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]
- Use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues
- 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 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
 - Permittee shall use drinkers that do not drip continuously. [District Rules 2201 and 4570]
- Adjust the height, volume, and location of drinkers, if necessary, at least once every seven (7) days
 - 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 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
 - Permittee shall inspect water pipes and drinkers and repair leaks daily. [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]

Since the facility has proposed all the required mitigation measure required by this rule, compliance with this rule is expected.

Rule 4701 Internal Combustion Engines - Phase 1

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp, that requires a PTO.

Section 4.1 of the rule specifically exempts IC engines in agricultural operations used for the growing of crops or raising of fowl or animals. Since the engine is used for the growing of crops or raising of fowl or animals, it is exempt from the requirements of this rule. Therefore, the following condition will be listed on the ATC C-5442-4-0 to ensure compliance.

- {4002} This IC engine shall only be used for the growing and harvesting of crops or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution. [District Rule 4701 and 17 CCR 93115]

Rule 4702 Internal Combustion Engines

C-5442-4-0 (Emergency IC Engine)

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and sulfur oxides (SO_x) from internal combustion engines. This rule applies to any internal combustion engine rated at 25 brake horsepower or greater.

The proposed 762 bhp emergency standby IC engine is subject to the requirements of this rule. The following summarizes District Rule 4702 Requirements for the emergency standby IC engine:

1. Operation of emergency standby engines is limited to 100 hours or less per calendar year for non-emergency purposes. The following condition will be included on the ATC:
 - {4775} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rules 2201, 4102 and 4702]
2. Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier. The following condition will be included on the ATC:
 - {4261} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
3. Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier. The following condition will be included on the ATC:
 - {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
4. Install and operate a nonresettable elapsed time meter. In lieu of installing a nonresettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and EPA and is allowed by Permit-to-Operate condition. The operator shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions. The following condition will be included on the ATC:

- {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
5. Emergency standby engines cannot be used to reduce the demand for electrical power when normal electrical power line service has not failed, or to produce power for the electrical distribution system, or in conjunction with a voluntary utility demand reduction program or interruptible power contract. The following conditions will be included on the ATC:
- {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]
 - {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]
6. Records of the total hours of operation, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and other support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request. The following conditions will be included on the ATC:
- {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
 - {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
 - {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions for the proposed IC engine is calculated as follows:

$$\begin{aligned} \text{Volume SO}_2 &= (n \times R \times T) \div P \\ n &= \text{moles SO}_2 \\ T \text{ (standard temperature)} &= 60 \text{ }^\circ\text{F or } 520 \text{ }^\circ\text{R} \\ R \text{ (universal gas constant)} &= \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{ }^\circ\text{R}} \end{aligned}$$

$$\frac{0.000015 \text{ lb} - \text{S}}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb}}{\text{gal}} \times \frac{64 \text{ lb} - \text{SO}_2}{32 \text{ lb} - \text{S}} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{\text{lb} - \text{mol}}{64 \text{ lb} - \text{SO}_2} \times \frac{10.73 \text{ psi} - \text{ft}^3}{\text{lb} - \text{mol} - \text{ }^\circ\text{R}} \times \frac{520 \text{ }^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 = 1.0 \text{ ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC C-5442-4-0 to ensure compliance:

- {4258} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]

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.

Title 17 California Code of Regulations (CCR), Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

C-5442-4-0 (Emergency IC Engine)

The following requirements apply to new engines (those installed after 1/1/05):

| <p>Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Electrical Generators</p> | <p>Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements</p> |
|--|---|
| <p>The requirements in Sections 93115.6, 93115.7, and 93115.10(a) do not apply to new stationary diesel-fueled CI engines used in agricultural operations.</p> | <p>The following condition will be added to the permit:</p> <ul style="list-style-type: none"> • This IC engine shall only be used for the growing and harvesting of crops or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution. [District Rule 4701 and 17 CCR 93115] |

| | |
|---|--|
| <p>Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.</p> | <p>The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, is included on the permit.</p> <ul style="list-style-type: none"> {4258} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115] |
| <p>The engine(s) must meet Table 6 of the ATCM, which requires the Off-road engine certification standard for the specific power rating of the proposed engine on the date of acquisition (purchase date) or permit application submittal to the District, whichever is earliest.</p> | <p>For emergency engines, the Off-road engine certification standards are identified in Table 1 of the ATCM⁴. The applicant has proposed the use of an emergency engine that meets the Table 1 emission standards (Off-road engine certification standards) for the applicable horsepower range).</p> |
| <p>A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed upon engine installation, or by no later than January 1, 2005, on all engines subject to all or part of the requirements of sections 93115.6, 93115.7, or 93115.8(a) unless the District determines on a case-by-case basis that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.</p> | <p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115] |
| <p>An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.</p> | <p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] |

⁴ Although Section 93115.8 of the ATCM states that new IC engines used in agricultural operations must meet the emissions limits in Table 6, the ATCM Staff Report clarifies that all new emergency standby IC engines must meet the emissions limits specified in Table 1 of the ATCM. This eliminates the requirement that new agricultural emergency standby IC engines would otherwise have to meet the after-treatment based Tier 4 standards specified in Table 6.

California Environmental Quality Act (CEQA)

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 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; and
- 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.

Greenhouse Gas (GHG) Significance Determination

District is a Lead Agency & GHG emissions increases are from the combustion of fossil fuel other than jet fuels

It is determined that no other agency has prepared or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*, for addressing GHG emission impacts when the District is Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying project complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

The GHG emissions increases associated with this project result from the combustion of fossil fuel(s), other than jet fuel, delivered from suppliers subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will involve the demolition and construction of 240,000 square feet of poultry houses for 320,000 birds to the same size, purpose, and capacity. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15302(b) (Replacement or Reconstruction), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

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 C-5442-2-1 & -4-0 subject to the permit conditions on the attached draft ATCs in Appendix A.

X. Billing Information

| Annual Permit Fees | | | |
|--------------------|--------------|------------------------|------------|
| Permit Number | Fee Schedule | Fee Description | Annual Fee |
| C-5442-2-1 | 3020-01-E | 280 hp electric motors | \$451.00 |
| C-5442-4-0 | 3020-10-D | 762 bhp IC engine | \$525.00 |

Appendixes

- A: Draft ATCs
- B: Current PTO C-5442-2-0
- C: Engine Exhaust Emission Data
- D: BACT Guideline and BACT Analysis – IC Engine
- E: HRA and AAQA Summary
- F: Quarterly Net Emissions Change

APPENDIX A

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: C-5442-2-1

LEGAL OWNER OR OPERATOR: FOSTER FARMS, CERINI RANCH
MAILING ADDRESS: PO BOX 831
LIVINGSTON, CA 95334

LOCATION: 19453 S CHATEAU FRESNO AVE
RIVERDALE, CA 93607

EQUIPMENT DESCRIPTION:

MODIFICATION OF 640,000 BROILER RANCH CONSISTING OF 24 NATURALLY VENTILATED BROILER HOUSES, INCLUDING ELECTRIC FANS TOTALING 240 HP: REPLACE 12 NATURALLY VENTILATED BROILER HOUSES FOR 320,000 BIRDS WITH 10 MECHANICALLY VENTILATED BROILER HOUSES FOR 320,000 BIRDS (32,000 BIRDS/HOUSE), INCLUDING ELECTRIC FANS TOTALING 160 HP

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. {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]
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]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

C-5442-2-1: Dec 13 2016 1:27PM -- BRARG : Joint Inspection NOT Required

5. Permittee shall feed all animals according to National Research Council (NRC) guidelines. [District Rules 2201 and 4570]
6. 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]
7. 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]
8. 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]
9. Permittee shall use drinkers that do not drip continuously. [District Rules 2201 and 4570]
10. 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]
11. 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]
12. Permittee shall inspect water pipes and drinkers and repair leaks daily. [District Rules 2201 and 4570]
13. Permittee shall maintain records indicating that water pipes and drinkers are inspected daily and that any leaks are repaired. [District Rules 2201 and 4570]
14. Permittee shall maintain a record of the number of animals of each species and production group at the facility and shall maintain quarterly records of any changes to this information. [District Rules 2201 and 4570]
15. 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]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-5442-4-0

LEGAL OWNER OR OPERATOR: FOSTER FARMS, CERINI RANCH
MAILING ADDRESS: PO BOX 831
LIVINGSTON, CA 95334

LOCATION: 19453 S CHATEAU FRESNO AVE
RIVERDALE, CA 93607

EQUIPMENT DESCRIPTION:
762 BHP (INTERMITTENT) PERKINS MODEL 2506C-E15TAG3 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY
STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

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. {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]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. {4002} This IC engine shall only be used for the growing and harvesting of crops or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution. [District Rules 4701 and 4702, and 17 CCR 93115]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

C-5442-4-0: Dec 13 2016 1:27PM - BRARG : Joint Inspection NOT Required

8. {1898} 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. [District Rule 4102]
9. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
10. {4258} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]
11. Emissions from this IC engine shall not exceed any of the following limits: 3.54 g-NOx/bhp-hr, 1.06 g-CO/bhp-hr, or 0.19 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
12. Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]
13. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rules 2201, 4102 and 4702]
14. {4261} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
15. {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
16. {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702 and 17 CCR 93115]
17. {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702 and 17 CCR 93115]
18. {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
19. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
20. {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

DRAFT

APPENDIX B

Current PTO C-5442-2-0

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-5442-2-0

EXPIRATION DATE: 12/31/2018

EQUIPMENT DESCRIPTION:

BROILER RANCH CONSISTING OF 640,000 BROILERS; 24 NATURALLY VENTILATED POULTRY HOUSES, INCLUDING ELECTRIC FANS/EQUIPMENT TOTALING 240 HP

PERMIT UNIT REQUIREMENTS

1. 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. 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. 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]
4. 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. Permittee shall maintain a record of the number of animals of each species and production group at the facility and shall maintain quarterly records of any changes to this information. [District Rule 4570]
6. Permittee shall feed all animals according to National Research Council (NRC) guidelines. [District Rule 4570]
7. 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 Rule 4570]
8. 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 Rule 4570]
9. 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 Rule 4570]
10. Permittee shall use drinkers that do not drip continuously. [District Rule 4570]
11. Permittee shall inspect drinkers at least once every seven (7) days and adjust the height, volume, and location of drinkers if necessary. [District Rule 4570]
12. Permittee shall record the date that drinkers are inspected dates adjustments were made to the height, volume, and location of drinkers. [District Rule 4570]
13. Permittee shall inspect water pipes and drinkers and repair leaks daily. [District Rule 4570]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

14. Permittee shall maintain records indicating that water pipes and drinkers are inspected daily and that any leaks are repaired. [District Rule 4570]
15. 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 Rule 4570]

These terms and conditions are part of the Facility-wide Permit to Operate.

APPENDIX C

Engine Exhaust Emission Data

STATEMENT OF EXHAUST EMISSIONS

2016 PERKINS DIESEL FUELED GENERATOR

The measured emissions values provided here are proprietary to Generac and its authorized dealers. This information may only be disseminated upon request, to regulatory governmental bodies for emissions permitting purposes or to specifying organizations as submittal data when expressly required by project specifications, and shall remain confidential and not open to public viewing. This information is not intended for compilation or sales purposes and may not be used as such, nor may it be reproduced without the expressed written permission of Generac Power Systems, Inc. The data provided shall not be meant to include information made public by Generac.

| | | | |
|-----------------------------|--------------------------|-----------------------------|--------------------------------------|
| Generator Model: | SD500 | EPA Certificate Number: | GCPXL15.2NZS-003 |
| kW _e Rating: | 500 | CARB Certificate Number: | Not Applicable |
| Engine Family: | GCPXL15.2NZS | SCAQMD CEP Number: | 545376 |
| Engine Model: | 2506C-E15TAG3 | Emission Standard Category: | Tier 2 |
| Rated Engine Power (BHP)*: | 762 | Certification Type: | Stationary Emergency CI |
| Fuel Consumption (gal/hr)*: | 31.2 | | (40 CFR Part 60 Subpart IIII) |
| Aspiration: | Turbo/Aftercooled | | |
| Rated RPM: | 1800 | | |

*Engine Power and Fuel Consumption are declared by the Engine Manufacturer of Record and the U.S. EPA.

Emissions based on engine power of specific Engine Model.
(These values are actual composite weighted exhaust emissions results over the EPA 5-mode test cycle.)

| CO | NOx + NMHC | PM | |
|------|------------|------|--------------|
| 1.43 | 5.02 | 0.07 | Grams/kW-hr |
| 1.06 | 3.73 | 0.05 | Grams/bhp-hr |

- The stated values are actual exhaust emission test measurements obtained from an engine representative of the type described above.
- Values based on 5mode testing are official data of record as submitted to regulatory agencies for certification purposes. Testing was conducted in accordance with prevailing EPA protocol, which is typically accepted by SCAQMD and other regional authorities.
- No emissions values provided above are to be construed as guarantees of emission levels for any given Generac generator unit.
- Generac Power Systems, Inc. reserves the right to revise this information without prior notice.
- Consult state and local regulatory agencies for specific permitting requirements.
- The emission performance data supplied by the equipment manufacturer is only one element required toward completion of the permitting and installation process. State and local regulations may vary on a case-by-case basis and local agencies must be consulted by the permit application/equipment owner prior to equipment purchase or installation. The data supplied herein by Generac Power Systems cannot be construed as a guarantee of installability of the generating set.

APPENDIX D

BACT Guideline and BACT Analysis – IC Engine

San Joaquin Valley Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.1.1
Last Update: 9/10/2013
Emergency Diesel IC Engine

| Pollutant | Achieved in Practice or in the SIP | Technologically Feasible | Alternate Basic Equipment |
|-----------|--|--------------------------|---------------------------|
| CO | Latest EPA Tier Certification level for applicable horsepower range* | | |
| NOX | Latest EPA Tier Certification level for applicable horsepower range* | | |
| PM10 | 0.15 g/bhp-hr or the latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent (ATCM) | | |
| SOX | Very low sulfur diesel fuel (15 ppmw sulfur or less) | | |
| VOC | Latest EPA Tier Certification level for applicable horsepower range* | | |

*Note: The certification requirements are as follows: for emergency engines $50 \leq \text{bhp} < 75$ - Tier 4 Interim; for emergency engines $75 \leq \text{bhp} < 750$ - Tier 3; for emergency engines ≥ 750 bhp - Tier 2.

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.

Top Down BACT Analysis for the Emergency IC Engine

BACT Guideline 3.1.1 applies to emergency diesel IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

1. BACT Analysis for NO_x and VOC Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 3.1.1 identifies only the following option:

- Latest EPA Tier Certification level for applicable horsepower range*

*Note: for emergency engines $50 \leq \text{bhp} < 75$, Tier 4 Interim certification is the requirement; for emergency engines $75 \leq \text{bhp} < 750$, Tier 3 certification is the requirement; for emergency engines ≥ 750 bhp, Tier 2 certification is the requirement.

The proposed engine is rated at 762 hp. Therefore, the applicable control technology option is EPA Tier 2 certification.

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_x and VOC will be the use of an EPA Tier 2 certified engine. The applicant is proposing such a unit. Therefore, BACT will be satisfied.

APPENDIX E

HRA and AAQA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Gurpreet Brar, AQE – Permit Services
 From: Stephanie Pellegrini, AQS – Technical Services
 Date: December 19, 2016
 Facility Name: Foster Farms, Cerini Ranch
 Location: 19453 S. Chateau Fresno Ave., Riverdale
 Application #(s): C-5442-2-1 & -4-0
 Project #: C-1162043

A. RMR SUMMARY

| RMR Summary | | | |
|--------------------------------|--------------------------|------------------|-----------------|
| Categories | Diesel ICE (Unit 4-0) | Project Totals | Facility Totals |
| Prioritization Score | N/A ¹ | N/A ¹ | >1.0 |
| Acute Hazard Index | N/A ² | N/A ² | 0.00 |
| Chronic Hazard Index | 0.00 | 0.00 | 0.00 |
| Maximum Individual Cancer Risk | 1.21E-07 | 1.21E-07 | 1.21E-07 |
| T-BACT Required? | No | | |
| Special Permit Requirements? | Yes | | |

¹Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.

²Acute Hazard Index was not calculated since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

Proposed Permit Requirements

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

Unit # 4-0

1. The PM10 emissions rate shall not exceed 0.05 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
2. 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.
3. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year.

B. RMR REPORT

I. Project Description

Technical Services received a request on November 22, 2016, to perform an Ambient Air Quality Analysis and a Risk Management Review for a proposed installation of a 762 bhp diesel-fired emergency IC engine (ATC C-5442-4-0) powering mechanically ventilated broiler houses. The facility is also proposing to modify their existing broiler operation (ATC C-5442-2-1) by replacing 12 older naturally ventilated broiler houses for 320,000 birds with 10 new mechanically ventilated broiler houses (32,000 birds/house). There will be no overall increase in birds at the ranch, no overall increase in emissions from the broiler houses, and the proposed broiler houses will be built on the footprints of the existing houses. Therefore, no evaluation was required for ATC C-5442-2-1.

II. Analysis

Toxic emissions for this proposed unit were calculated using PM10 emission rates provided by the project engineer, and 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 proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed 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 2011-2013 from Lemoore 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 hazard index and the carcinogenic risk for the project.

The following parameters were used for the review:

| Analysis Parameters Unit 4-0 | | | |
|---|-------|-------------------------------|-------------|
| Source Type | Point | Location Type | Rural |
| Stack Height (m) | 1.83 | Closest Receptor (m) | 365 |
| Stack Diameter (m) | 0.13 | Type of Receptor | Residential |
| Stack Exit Velocity (m/s) | 147.3 | Max Hours per Year | 100 |
| Stack Exit Temp. (°K) | 823.0 | PM10 Emissions (lb/yr) | 8.0 |

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀ with the emission rates below:

| Unit # | NO _x (Lbs.) | | SO _x (Lbs.) | | CO (Lbs.) | | PM ₁₀ (Lbs.) | |
|--------|------------------------|-----|------------------------|-----|-----------------|-----|-------------------------|-----|
| | Hr. | Yr. | Hr. | Yr. | Hr. | Yr. | Hr. | Yr. |
| 4-0 | NA ¹ | 595 | NA ¹ | 1 | NA ¹ | 178 | NA ¹ | 8 |

¹The project is an intermittent source as defined in APR-1920. In accordance with APR-1920, compliance with short-term (i.e., 1-hour, 3-hour, 8-hour and 24-hour) standards is not required.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

| Diesel ICE | 1 Hour | 3 Hours | 8 Hours | 24 Hours | Annual |
|-------------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| CO | NA ¹ | X | NA ¹ | X | X |
| NO _x | NA ¹ | X | X | X | Pass |
| SO _x | NA ¹ | NA ¹ | X | NA ¹ | Pass |
| PM ₁₀ | X | X | X | NA ¹ | Pass ² |
| PM _{2.5} | X | X | X | NA ¹ | Pass ² |

*Results were taken from the attached PSD spreadsheet.

¹The project is an intermittent source as defined in APR-1920. In accordance with APR-1920, compliance with short-term (i.e., 1-hour, 3-hour, 8-hour and 24-hour) standards is not required.

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The chronic index is below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without 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 this proposed unit.

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 emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary
- E. AAQA Summary

APPENDIX F

Quarterly Net Emissions Change

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:

$$PE2_{\text{quarterly}} = PE2_{\text{annual}} \div 4 \text{ quarters/year}$$

$$PE1_{\text{quarterly}} = PE1_{\text{annual}} \div 4 \text{ quarters/year}$$

C-5442-2-1 (Broiler Ranch)

| PE2 (lb/qtr) C-5442-2-1 | | | | | |
|-------------------------|---------------|---|------------|---|--------------|
| Pollutant | PE2 (lb/year) | ÷ | 4 qtr/year | = | PE2 (lb/qtr) |
| NO _x | 0 | ÷ | 4 qtr/year | = | 0 |
| SO _x | 0 | ÷ | 4 qtr/year | = | 0 |
| PM ₁₀ | 12,800 | ÷ | 4 qtr/year | = | 3,200 |
| CO | 0 | ÷ | 4 qtr/year | = | 0 |
| VOC | 10,240 | ÷ | 4 qtr/year | = | 2,560 |

| PE1 (lb/qtr) C-5442-2-1 | | | | | |
|-------------------------|---------------|---|------------|---|--------------|
| Pollutant | PE1 (lb/year) | ÷ | 4 qtr/year | = | PE1 (lb/qtr) |
| NO _x | 0 | ÷ | 4 qtr/year | = | 0 |
| SO _x | 0 | ÷ | 4 qtr/year | = | 0 |
| PM ₁₀ | 12,800 | ÷ | 4 qtr/year | = | 3,200 |
| CO | 0 | ÷ | 4 qtr/year | = | 0 |
| VOC | 10,240 | ÷ | 4 qtr/year | = | 2,560 |

| Quarterly NEC [QNEC] C-5442-2-1 | | | | | |
|---------------------------------|--------------|---|--------------|---|---------------|
| Pollutant | PE2 (lb/qtr) | - | PE1 (lb/qtr) | = | QNEC (lb/qtr) |
| NO _x | 0 | - | 0 | = | 0 |
| SO _x | 0 | - | 0 | = | 0 |
| PM ₁₀ | 3,200 | - | 3,200 | = | 0 |
| CO | 0 | - | 0 | = | 0 |
| VOC | 2,560 | - | 2,560 | = | 0 |

C-5442-4-0 (Emergency IC Engine)

| PE1 (lb/qtr) C-5442-4-0 | | | | | |
|-------------------------|---------------|---|------------|---|--------------|
| Pollutant | PE1 (lb/year) | ÷ | 4 qtr/year | = | PE1 (lb/qtr) |
| NO _x | 0 | ÷ | 4 qtr/year | = | 0 |
| SO _x | 0 | ÷ | 4 qtr/year | = | 0 |
| PM ₁₀ | 0 | ÷ | 4 qtr/year | = | 0 |
| CO | 0 | ÷ | 4 qtr/year | = | 0 |
| VOC | 0 | ÷ | 4 qtr/year | = | 0 |

| PE2 (lb/qtr) C-5442-4-0 | | | | | |
|-------------------------|---------------|---|------------|---|--------------|
| Pollutant | PE2 (lb/year) | ÷ | 4 qtr/year | = | PE2 (lb/qtr) |
| NO _x | 595 | ÷ | 4 qtr/year | = | 149 |
| SO _x | 1 | ÷ | 4 qtr/year | = | 0 |
| PM ₁₀ | 8 | ÷ | 4 qtr/year | = | 2 |
| CO | 178 | ÷ | 4 qtr/year | = | 45 |
| VOC | 32 | ÷ | 4 qtr/year | = | 8 |

| Quarterly NEC [QNEC] C-5442-4-0 | | | | | |
|---------------------------------|--------------|---|--------------|---|---------------|
| Pollutant | PE2 (lb/qtr) | - | PE1 (lb/qtr) | = | QNEC (lb/qtr) |
| NO _x | 149 | - | 0 | = | 149 |
| SO _x | 0 | - | 0 | = | 0 |
| PM ₁₀ | 2 | - | 0 | = | 2 |
| CO | 45 | - | 0 | = | 45 |
| VOC | 8 | - | 0 | = | 8 |