San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

November 18, 2020

Mark Ferguson
Diamond Pet Food Processors of Ripon
942 S Stockton Ave
Ripon, CA 95366

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-8234
Project Number: N-1191493

Dear Mr. Ferguson:

Enclosed for your review and comment is the District's analysis of Diamond Pet Food Processors of Ripon's application for an Authority to Construct to revise NOx, CO and PM10 emission limits and heat input ratings for each regenerative thermal oxidizer (RTO), as well as, to install a Continuous Emissions Rate Monitoring System (CERMS) to monitor and records NOx emissions at the discharge stack of each RTO for the existing pet food manufacturing operations, at 942 S Stockton Ave, Ripon, California.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Jag Kahlon of Permit Services at (209) 557-6452.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM: JK

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Modification to Pet Food Manufacturing Line Permits

Facility Name:	Diamond Pet Food Processors of Ripon	Date:	November 18, 2020
Mailing Address:	942 S Stockton Ave Ripon, CA 95366	Engineer:	Jag Kahlon
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Application #(s):	N-8234-4-12, 5-12, 6-12		
Project #:	N-1191493		
Deemed Complete:	May 19, 2020		

I. Proposal

Diamond Pet Food Processor of Ripon (referred hereinafter as "DPF") has requested to amend permits N-8234-4, '-5 and '-6 for the pet food manufacturing lines. The applicant is proposing revised NOx, CO and PM_{10} emission limits and heat input ratings for each regenerative thermal oxidizer (RTO). Additionally, the applicant is to install a Continuous Emissions Rate Monitoring System (CERMS) to monitor and record NOx emissions rate at the discharge stack of each RTO. The details are as follows:

- Revise NOx emissions limit

  Under project N-1173791, DPF was issued Authority to Construct (ATC) permits to install three Durr Systems Inc.'s Ecopure RL-60 RTOs and associated duct work to abate pet food odors and reduce VOC emissions from the processes served by wet cyclone, dryer cyclone & dryer-cooler cyclone, and vertical cooler cyclone, in each of the three existing identical pet food manufacturing lines. DPF conducted a source testing under these ATCs, and subsequent portable analyzer testing.

  The results are summarized below:

Date	Type of testing	Tested value*
January 24, 2019	Source testing (Test while processing most odorous pet food recipes)	0.333 lb-NOx/MMBtu (5.8 ppm NOx)
June 2019	Portable analyzer testing (Test under normal product-mix production scenarios, 15 sec readings from 45-minute to 3-hour interval depending on production runs[1])	5.59 ppm NOx (max) 3.2 ppm NOx (avg)
July 2019	Portable analyzer testing (Test under normal product-mix production scenarios, 15 sec readings from 1-hour to 3-hour intervals, depending on production runs[2])	4.98 ppm NOx (max) 2.88 ppm NOx (avg)

* Oxygen (O_2) concentration was greater than 19% during source testing and portable analyze tests; thus, no corrections are made NOx readings

Based on these portable analyzer readings, and January 2019 source test data, DPF is proposing revised NOx emission limits of 5.7 ppm NOx (0.330 lb/MMBtu) on a short-term basis (hourly and daily) and 3.3 ppm NOx (0.1743 lb/MMBtu) on an long-term annual basis. These limits equate to mass emission rates of 2.541 lb-NOx/hr, 61.0 lb-NOx/day, and 11,693 lb-NOx/yr for each RTO. Further, they are also proposing a combined heat input limit of 156,816 MMBtu/yr for all three RTOs that will result in combined total NOx emissions of 27,333 lb/yr (12-month rolling basis) from all three RTOs. These limits do not include NOx contribution from the dryers.

DPF's consultant states that exhaust from various sources under each pet food line discharges into a common header, and from there the exhaust is discharged into the RTO(s) in operation. The RTOs are oversized to accommodate exhaust from multiple pet food lines. According to DPF, the system is sized such that two RTOs can handle exhaust from all three pet food manufacturing lines. Further, the plant has a built-in design operational flexibility to deactivate some process equipment, which can reduce the exhaust from those units, if needed. For example, exhaust from vertical coolers can be reduced by limiting their operation and diverting its processes to other vertical coolers. Since fewer than three RTOs can be operated under various equipment configurations, the operational RTO(s) will treat more exhaust and will consequently have more emissions than the emissions from a single RTO (noted above) configuration. For this reason, DPF has requested to establish a combined total hourly, daily and annual emission limit for all three RTOs by treating them as if the emissions are from a single abatement device. DPF is also proposing to include the hourly, daily and annual NOx contribution of the dryers into the combined total limits, as the dryer fuel flow meters do not have the capability to relay instantaneous fuel usage data to the CEMS recorder. The following combined limits are proposed: 8.343 lb-NOx/hr, 200.4 lb-NOx/day, and 33,639 lb-NOx/yr (12-month rolling basis). These limits includes the NOx contribution from the all emissions sources in the three pet food manufacturing lines.

[1] Refer to the data in Table 4 of letter dated September 16, 2019 in the project file.
[2] Refer to the data in Table 4 of letter dated September 16, 2019 in the project file.

- Install CERMS to monitor and record NOx emissions rate

  DPF has proposed to install three separate CERMS, one for each RTO exhaust stack, to measure and record NOx emissions rate. CERMS will ensure on-going compliance with the proposed short-term and long-term NOx mass emission rates.

- Revise PM_{10} emission limit

  Previously issued Authority to Construct (ATC) permits under project N-1173791 required DPF to conduct a one-time PM_{10} test upon installation of the RTOs. This test was conducted on January 24, 2019 and the test result was '0.0089 lb-PM_{10}/ton of finished product' based on the average of three valid test runs; the maximum of three-test-runs was '0.0150 lb/ton of finished product'. Based on this result, DPF has proposed to lower the existing PM_{10} emission limit from '0.0612 lb/ton of finished product' to '0.0306 lb/ton of finished product'. Note that the proposed PM_{10} emission limit is twice the tested maximum of the three-test-runs.

- Revise CO emission factor limit

  Previously issued Authority to Construct (ATC) permits under project N-1173791 contained the following CO emission limits for each RTO: 1.41 lb-CO/MMBtu (startup), 1.2 lb-CO/MMBtu (steady state). The source test conducted on January 24, 2019 showed less than 0.05 lb-CO/MMBtu (steady state, burner on with production) and less than 0.24 lb-CO/MMBtu (startup, no production). Based on these results, DPF has proposed to establish a single limit of 0.88 lb-CO/MMBtu for all operating scenarios including startup and steady-state. Note that the proposed CO emission limit is 3.6 times greater than the originally proposed startup limit, and about 17.6 times greater than the originally proposed steady state limit.

- Revise the heat input rate to each RTO

  Under project N-1173791, heat input rate of 6 MMBtu/hr was used to calculate startup NOx emissions and 4.76 MMBtu/hr for steady state emissions. DPF is proposing to revise the maximum allowed heat input rate to 7.7 MMBtu/hr, 184.8 MMBtu/day, 67,082 MMBtu/yr (12-month rolling basis) for each RTO, and a combined total heat input rate of 156,816 MMBtu/yr (12-month rolling basis) for all three RTOs.

<u>Disposition of the Existing ATCs:</u>
DPF was unable to comply with NOx emission limits for the RTOs from the previously issued ATC permits N-8234-4-10, '-5-10 and '-6-10. Therefore, these permits cannot be implemented or converted into Permits to Operate (PTO). These ATCs will be cancelled upon implementation of the permits under this project.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions 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 4202	Particulate Matter – Emissions Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4309	Dryer, Dehydrators, and Ovens (12/15/05)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

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

III. Project Location

The facility is located at 920 South Stockton Ave, Ripon, California. 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

This facility has several emission units including material receiving and storage operations (silos/bins), hammermills, screens/scalpers, elevators, conditioners, dryers, coolers, boilers, mechanical and pneumatic material conveying systems and packing machines.
DPF receives raw materials such as whole corn, beet pulp, chicken meal, cracked barley and peas via rail cars or trucks. The material is screened and stored in appropriate silos/bins located outside of the main production building. On a as need basis, an appropriate amount of the stored materials is dispensed from the silos/bins into a pre-grinding hammermill system or directly to enclosed drag screw conveyors. The pre-ground material and the materials in the enclosed drag screw conveyors are then transferred to enclosed belt conveyors, which transfers the material to the bins in the mill tower via enclosed bucket elevators.

The material in the mill tower is then dispensed to associated scale bins. From the scale bins, the material is dispensed into surge bins. The material in the surge bins is then dispensed into an enclosed mixer, and then either transferred into an enclosed bucket elevator feeding an enclosed transfer auger or into a truck loadout spout. The enclosed transfer auger feeds three surge bins, each associated with one of the three identical hammermill systems. Each hammermill system consists of a feeding system, hammermill unit, plenum, enclosed screw conveyor, vibratory screener, and a pneumatic transfer system (bin vent filter with static socks)

for transferring “overs” from the screener to the extruder surge bin, which feeds the extruder of each pet food processing line.

Frozen meat (beef, chicken and lamb) is delivered to the facility via trucks. The meat is stored in a refrigerated building.

There are currently three separate identical pet food processing lines. Each of these processing lines is capable of manufacturing various pet food kibble based on the production needs and given recipes. The process starts with a specific pet food kibble recipe. Depending on the recipe, an appropriate amount of each material is dispensed from metering bins, mixed, and transferred into steam conditioners. Each recipe may use frozen meat (beef, chicken, lamb, or fish), which is delivered to the facility via trucks, and stored in a refrigerated building. As part of the recipe, ground meat is injected into the steam conditioners, and thoroughly pasteurized/steam conditioned to release starches, which act as binding agents for the material. The material is then extruded to form pet food kibble. The freshly extruded moist kibble is transferred via vacuum takeaway tubing (vacuum created by a cyclone) to the conveyor belt that serves the dryer and dryer-cooler in each processing line. In the dryer and dryer-cooler the kibble is dried using hot air from natural gas combustion and then cooled in the dryer-cooler. The dried kibble is then coated with chicken fat and canola oil to bind other nutrients such as dry digest and probiotics. The coated kibbles are then cooled further in vertical coolers, then packaged and stored in a warehouse or shipped directly to the customers.

Each pet food manufacturing line now has three stacks – one for the extruder (wet) cyclone also known as hot kibble conveying cyclone (HT-68), dryer cyclone (MAC HE60) and vertical cooler cyclone (MAC HE-52). Dryer cooler cyclone (MAC) that was previously a stack discharge is now being routed into the dryer. Almost all odorous processes are discharged through these stacks. To reduce pet food odors, DPF used cold plasma injection system[3], and intermittently used odorant injection system(s) that injects odor masking agents on as needed basis.

DPF had removed the cold plasma injection systems and odorant injection systems, and ducted all cyclone stacks (3 lines x 3 stacks/line) into a main duct from where the mixed exhaust is diverted into three ducts each connected to the proposed RTO system, which will serve to reduce both pet food odors and VOC emissions.

V. Equipment Listing

Pre-Project Equipment Description:
N-8234-4-8: PET FOOD PROCESSING LINE #1
N-8234-5-8: PET FOOD PROCESSING LINE #2
N-8234-6-8: PET FOOD PROCESSING LINE #3

[3]Cold plasma injection system uses small amount (i.e., about 10% of the stream being treated) clean indoor building air and dissociate that air under high electromagnetic field to form a highly reactive charged particles gas, which is injected into odorous laden stream prior to its discharge into the atmosphere.

Proposed Modification:
Previously, under project N-1173791, DPF had proposed to remove the existing cold plasma injection and odorant injection systems and replace them with three RTOs and associated duct work and control equipment, and make changes to the existing permit requirements to match "as-built" plant configuration. The previous proposal is being incorporated into the ATC under this project. Refer to analysis prepared under project N-1173791 for details on the previous proposal[4]. In addition, NOx, CO and PM_{10} emissions limit, and heat input rate to each RTO are being revised along with the installation of CEMS to monitor and record NOx emissions at the exhaust stack of each RTO.

N-8234-4-12: MODIFICATION OF PET FOOD PROCESSING LINE #1: INSTALL THREE DURR SYSTEMS, INC. ECOPURE RL-60 REGENERATIVE THERMAL OXIDIZERS (RTO) AND ASSOCIATED DUCT WORK TO TREAT LADEN AIR DISCHARGE FROM WET CYCLONE, DRYER & DRYER-COOLER, AND VERTICAL COOLER STACKS UNDER PERMITS N-8234-4, '-5 AND '-6, REMOVE COLD PLASMA INJECTION SYSTEMS AND ODORANT INJECTION SYSTEMS, AND MAKE CHANGES TO THE EXISTING REQUIREMENTS TO MATCH "AS-BUILT" PLANT CONFIGURATION, REVISE THE NOX, CO AND PM10 EMISSIONS LIMITS, REVISE THE HEAT INPUT RATE FOR EACH RTO, AND INSTALL A CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS) TO MONITOR AND RECORD NOX EMISSIONS RATE AT THE EXHAUST STACK OF EACH RTO

N-8234-5-12: MODIFICATION OF PET FOOD PROCESSING LINE #2: INSTALL THREE DURR SYSTEMS, INC. ECOPURE RL-60 REGENERATIVE THERMAL OXIDIZERS (RTO) AND ASSOCIATED DUCT WORK TO TREAT LADEN AIR DISCHARGE FROM WET CYCLONE, DRYER & DRYER-COOLER, AND VERTICAL COOLER STACKS UNDER PERMITS N-8234-4, '-5 AND '-6, REMOVE COLD PLASMA INJECTION SYSTEMS AND ODORANT INJECTION SYSTEMS, AND MAKE CHANGES TO THE EXISTING REQUIREMENTS TO MATCH "AS-BUILT" PLANT CONFIGURATION, REVISE THE NOX, CO AND PM10 EMISSIONS LIMIT, REVISE THE HEAT INPUT RATE FOR EACH RTO, AND INSTALL A CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS) TO MONITOR AND RECORD NOX EMISSIONS RATE AT THE EXHAUST STACK OF EACH RTO

N-8234-6-12: MODIFICATION OF PET FOOD PROCESSING LINE #3: INSTALL THREE DURR SYSTEMS, INC. ECOPURE RL-60 REGENERATIVE THERMAL OXIDIZERS (RTO) AND ASSOCIATED DUCT WORK TO TREAT LADEN AIR DISCHARGE FROM WET CYCLONE, DRYER & DRYER-COOLER, AND VERTICAL COOLER STACKS UNDER PERMITS N-8234-4, '-5 AND '-6, REMOVE COLD PLASMA INJECTION SYSTEMS AND ODORANT INJECTION SYSTEMS, AND MAKE CHANGES TO THE EXISTING REQUIREMENTS TO MATCH "AS-BUILT" PLANT CONFIGURATION, REVISE THE NOX, CO AND PM10 EMISSIONS LIMIT, REVISE THE HEAT INPUT RATE FOR EACH RTO, AND INSTALL A CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS) TO

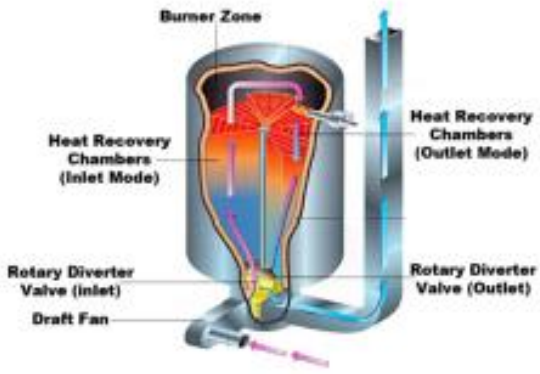
[4] http://www.valleyair.org/notices/Docs/2018/03-01-18_(N-1173791)/N-1173791.pdf

MONITOR AND RECORD NOX EMISSIONS RATE AT THE EXHAUST STACK OF EACH RTO

Post-Project Equipment Description:
N-8234-4-12: PET FOOD PROCESSING LINE #1
N-8234-5-12: PET FOOD PROCESSING LINE #2
N-8234-6-12: PET FOOD PROCESSING LINE #3

VI. Emission Control Technology Evaluation

DPF is proposing to use three custom-designed regenerative thermal oxidizers (RTOs) to control odor emissions and VOCs from the per food manufacturing operations. Each RTO system is a custom design single-vessel RTO capable of handling large volumes of airflow and is capable of destroying at least 95% of VOC emissions (by wt.). Pollutants are oxidized at high temperatures (1,620-1,650˚F), creating CO_2 and H_2O. Up to 95% of the thermal energy required for the oxidation process is recovered internally to minimize the need for natural gas fuel. While it is typical for RTO's to have a minimum of a 98% destruction efficiency for VOC's, the proposed RTO's are not typical units. The RTO's proposed for this project are highly specialized units that are designed specifically to control VOC emissions from sources that have very high airflows with low VOC concentrations, so the equipment manufacturer will only guarantee a VOC control efficiency of 95%.



Each RTO has twelve ceramic heat-exchange beds that are arranged radially over a proprietary diverter valve. Incoming contaminated air enters the media bed through the bottom of the unit, and is drawn upwards through five hot ceramic beds which have been previously pre-heated. The laden stream is heated as it rises, and enters 6" ceramic lined combustion chamber at the top where additional energy is added by a burner to complete the oxidation process. Hot clean exhaust is then drawn downwards through the five adjacent cooler ceramic beds to transfer the thermal energy to the ceramic beds before being exhausted into the atmosphere. The two "spare" beds serve to prevent cross contamination between the inlet and outlet sections and to ensure high destruction efficiency of the unit.

More information on the proposed model and a video on how it works can be found at the following link: https://www.durr.com/en/products/environmental-technology/exhaust-gas-and-air-pollution-control/thermal-processes/ecopure-rl.

VII. General Calculations

A. Assumptions

- Assumptions will be stated as they are made during the evaluation.
- To streamline emission calculations, $PM_{2.5}$ emissions are assumed to be equal to PM_{10} emissions. Only if needed, to determine if a project is a Federal major modification for $PM_{2.5}$, $PM_{2.5}$ emission calculations be performed.

B. Emission Factors

1. Pre-Project Emission Factors (EF1)

N-8234-4-8, '-5-8 and '-6-8:
Natural gas combustion in dryer:

Pollutant	EF1	Source
NO_x	2.1 ppmvd @ 19% O_2 (0.024 lb/MMBtu)	N-8234-4, '-5 and '-6
SO_x	0.00285 lb/MMBtu	
*PM_{10}	--	See table footnote
CO	16.5 ppmvd @ 19% O_2 (0.112 lb/MMBtu)	N-8234-4, '-5 and '-6
*VOC	--	See table footnote

*PM_{10} and VOC emissions are counted in the process emissions (see below).

Process emissions:
There are several processes under each permit. Potential emissions from each activity are detailed in a worksheet prepared under project N-1130470. Per permit N-8234-4-8, '-5-8, '-6-8, process emissions from each permit unit are:

EF1 = 0.0612 lb-PM_{10}/ton of finished material
= 0.047 lb-VOC/ton of finished material

Note that both VOC and PM_{10} emission factors above reflect both the emissions from the processes and emissions from the direct-fired dryer fueled on natural gas.

Cold plasma injection system:
Each permit N-8234-4-8, 5-8 & 6-8 limits total NOx emissions to 0.529 lb/hour. These emissions include NOx emissions from separate cold plasma injection systems on wet cyclone, dryer cyclone, cooler cyclone and the vertical cooler cyclone. These emissions also include NOx emissions from natural gas combustion in the dryer.

Odorant injection system:
Per application review prepared under project N-1171487,

EF1 = 1.0 lb-VOC/lb-odorant

2. Post-Project Emission factors (EF2)

N-8234-4-12, '-5-12, '-6-12:

Natural gas combustion in dryer:

Pollutant	EF2	Source
NO_x	2.1 ppmvd @ 19% O_2 (0.024 lb/MMBtu)	N-8234-4, '-5 and '-6
SO_x	0.00285 lb/MMBtu	District Policy APR-1720 (12/20/01)
*PM_{10}	--	See table footnote
CO	16.5 ppmvd @ 19% O_2 (0.112 lb/MMBtu)	N-8234-4, '-5 and '-6
*VOC	--	See table footnote

*PM_{10} and VOC emissions are counted in the process emissions (see below).

Process emissions:
As explained in the proposal section, DPF has proposed to lower the existing PM_{10} emission factor to 0.0306 lb-PM_{10}/ton of finished material. Thus,

EF2 = 0.0306 lb-PM_{10}/ton of finished material

Per applicant, each RTO system is expected to reduce at least 95% (by wt.) of VOC emissions. Thus, the EF would be 0.0024 lb-VOC/ton of finished material [(0.047 lb-VOC/ton of finished material) x (1-0.95)] using the pre-project EF and the proposed control efficiency. However, DPF states that they processes several pet food recipes, and the VOC emissions may vary from one recipe to another, and to have a conservative margin of compliance, the EF should be established at 0.005 lb-VOC/ton of finished material. In addition, Diamond will demonstrate at least 95% reduction in VOC emissions. Therefore,

EF2 = 0.005 lb-VOC/ton of finished material

Note that both VOC and PM_{10} emission factor include emissions from various processes under each permit and emissions from direct-fired dryer fueled on natural gas. These emission factors do not include emissions from natural gas combustion in the RTO systems.

RTO emissions:

Pollutant	EF2	Source
NO_x	0.330 lb/MMBtu (hourly, daily) 0.1743 lb/MMBtu (annual basis)	Proposed by the applicant
SO_x	0.00285 lb/MMBtu	District Policy APR-1720 (12/20/01)
PM_{10}	0.0076 lb/MMBtu	EPA's AP-42 Table 1.4-2 (7/98)
CO	0.88 lb/MMBtu	Proposed by the applicant
VOC	0.0055 lb/MMBtu	EPA's AP-42 Table 1.4-2 (7/98)

C. Calculations

1. Pre-Project Potential to Emit (PE1)

N-8238-4-8, 5-8, 6-8:

Natural gas combustion in dryer:
PE1 (lb/hr) = EF2 (lb/MMBtu) x 10 MMBtu/hr
PE1 (lb/day) = EF2 (lb/MMBtu) x 10 MMBtu/hr x 24 hr/day
PE1 (lb/yr) = EF2 (lb/MMBtu) x 10 MMBtu/hr x 8,760 hr/yr

Pollutant	EF1	PE1 (lb/hr)	PE1 (lb/day)	PE1 (lb/yr)
NO_x	0.024 lb/MMBtu	0.24	5.8	2,102
SO_x	0.00285 lb/MMBtu	0.029	0.7	250
*PM_{10}	--	--	--	--
CO	0.112 lb/MMBtu	1.12	26.9	9,811
*VOC	--	--	--	--

*PM_{10} and VOC emissions are counted in the process emissions (see below).

Process emissions:
Pet food processing rate is limited to 780 tons/day/line and 780 tons/day for all three pet food manufacturing lines. Thus,

PE1 = 0.0612 lb-PM_{10}/ton of finished material x 780 tons/day
= 47.7 lb-PM_{10}/day for each line as well as all three lines

= 0.0612 lb-PM_{10}/ton of finished material x 780 tons/day x 365 days/yr
= 17,424 lb-PM_{10}/yr for each line as well as all three lines

= 0.047 lb-VOC/ton of finished material x 780 tons/day
= 36.7 lb-VOC/day for each line as well as all three lines

= 0.047 lb-VOC/ton of finished material x 780 tons/day x 365 days/yr
= 13,381 lb-VOC/yr for each line as well as all three lines

Cold plasma injection system:
Each permit N-8234-4-8, 5-8 & 6-8 limits total NOx emissions to 0.529 lb/hr.

This emission rate includes NOx emissions from separate cold plasma injection systems serving the wet cyclone, dryer cyclone, cooler cyclone and the vertical cooler cyclone, as well as NOx emissions from natural gas combustion in the dryer.

Therefore, the total NOx emissions from each permit unit are:

PE1 = 0.529 lb-NOx/hr
= 0.529 lb-NOx/hr x 24 hr/day = 12.7 lb-NOx/day
= 0.529 lb-NOx/hr x 8,760 hr/yr = 4,634 lb-NOx/yr

Odorant injection system:
Permit N-8234-4-8, 5-8 & 6-8 limits odorant injection rate to 22.5 lb/day and 5,475 lb/year for each, as well as, all three pet food manufacturing lines. Therefore,

PE1 = 1 lb-VOC/lb-odorant x 22.5 lb/day = 22.5 lb-VOC/day
= 1 lb-VOC/lb-odorant x 5,475 lb/yr = 5,475 lb-VOC/yr

Summary:
The following table summarizes the daily and annual emissions from each permit unit. Note that PM10 and VOC are combined total for all three pet food manufacturing lines.

Pollutant	Source operation	PE1 (lb/hr)	PE1 (lb/day)	PE1 (lb/yr)
NO_x	Natural gas combustion in the dryer + NOx generation from cold plasma injection system	0.529	12.7	4,634
SO_x	Natural gas combustion in the dryer	0.029	0.7	250
PM_{10}	Natural gas combustion in the dryer as well as process emissions	1.988*	47.7	17,424
CO	Natural gas combustion in the dryer	1.12	26.9	9,811
VOC	Natural gas combustion in the dryer as well as process emissions calculated above under “process emissions” AND “odorant injection system”	2.467*	59.2 (22.5+36.7)	18,856 (13,381+5,475)

*PE1 (lb/hr) = PE1 (lb/day) ÷ 24 (hr/day)

2. Post-Project Potential to Emit (PE2)

N-8238-4-12, 5-12, 6-12:
Natural gas combustion in dryer:
PE2 (lb/hr) = EF2 (lb/MMBtu) x 10 MMBtu/hr
PE2 (lb/day) = EF2 (lb/MMBtu) x 10 MMBtu/hr x 24 hr/day
PE2 (lb/yr) = EF2 (lb/MMBtu) x 10 MMBtu/hr x 8,760 hr/yr

Pollutant	EF2	PE2 (lb/hr)	PE2 (lb/day)	PE2 (lb/yr)
NO_x	0.024 lb/MMBtu	0.24	5.8	2,102
SO_x	0.00285 lb/MMBtu	0.029	0.7	250
*PM_{10}	--	--	--	--
CO	0.112 lb/MMBtu	1.12	26.9	9,811
*VOC	--	--	--	--

*PM_{10} and VOC emissions are counted in the process emissions (see below).

Process emissions:
Pet food processing rate is limited to 780 tons/day/line and 780 tons/day for all three pet food manufacturing lines. Thus,

PE2 = 0.0306 lb-PM_{10}/ton of finished material x 780 tons/day
= 23.9 lb-PM_{10}/day for each line as well as all three lines

= 0.0306 lb-PM_{10}/ton of finished material x 780 tons/day x 365 days/yr
= 8,712 lb-PM_{10}/yr for each line as well as all three lines

= 0.005 lb-VOC/ton of finished material x 780 tons/day
= 3.9 lb-VOC/day for each line as well as all three lines

= 0.005 lb-VOC/ton of finished material x 780 tons/day x 365 days/yr
= 1,424 lb-VOC/yr for each line as well as all three lines

RTO emissions:
For each RTO, DPF has proposed to use 7.7 MMBtu/hr (maximum) to estimate hourly, daily emissions, and annual emissions. The annual emissions are proposed to be estimated using 8,712 hours/year. Combined total heat input of 156,816 MMBtu/yr is proposed for all three RTOs. Using this information, the potential emissions from each RTO are estimated using following equations:

NOx, SOx, PM_{10}, CO and VOC:
PE2 (lb/hr) = $EF2_{Hourly\ or\ Daily}$ lb/MMBtu x 7.7 MMBtu/hr
PE2 (lb/day) = $EF2_{Hourly\ or\ Daily}$ lb/MMBtu x 7.7 MMBtu/hr x 24 hr/yr
PE2 (lb/day) = $EF2_{Annual}$ lb/MMBtu x 7.7 MMBtu/hr x 8,712 hr/yr

PE2 (lb/yr) for all three RTOs:
PE2 (lb/yr) = $EF2_{Annual}$ lb/MMBtu x 156,816 MMBtu/yr

Pollutant	EF2		PE2 (lb/hr) Max.	PE2 (lb/day)	PE2 (lb/yr) For each RTO	PE2 (lb/yr) for all three RTOs
NO_x	Hourly or Daily	0.330 lb/MMBtu	2.541	61.0	--	--
	Annual	0.1743 lb/MMBtu	--	--	11,693	27,333
	Worst-case		**2.541**	**61.0**	**11,693**	**27,333**
SO_x	0.00285 lb/MMBtu		0.022	0.5	191	447
PM_{10}	0.0076 lb/MMBtu		0.059	1.4	510	1,192
CO	0.88 lb/MMBtu		6.776	162.6	59,033	137,998
VOC	0.0055 lb/MMBtu		0.042	1.0	369	862

Summary:
The following table summarizes the daily and annual emissions from each permit unit. Note that PM10 and VOC are combined total for all three pet food manufacturing lines.

Pollutant	Source operation	PE2 (lb/hr)	PE2 (lb/day)	PE2 (lb/yr)
NO_x	Natural gas combustion in the dryer	0.24	5.8	2,102
SO_x	Natural gas combustion in the dryer	0.029	0.7	250
PM_{10}	Natural gas combustion in the dryer as well as process emissions	0.996*	23.9	8,712
CO	Natural gas combustion in the dryer	1.12	26.9	9,811
VOC	Natural gas combustion in the dryer as well as process emissions	0.163*	3.9	1,424

*PE2 (lb/hr) = PE1 (lb/day) ÷ 24 (hr/day)

The following table summarizes the emissions from all three RTOs:

Pollutant	Source operation	PE2 (lb/hr)	PE2 (lb/day)	PE2 (lb/yr)
NO_x	All three RTOs	7.623	183.0	27,333
SO_x		0.066	1.5	447
PM_{10}		0.177	4.2	1,192
CO		20.328	487.8	137,998
VOC		0.126	3.0	862

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. Except for the permit units under this project, the potential emissions for each permit unit are taken from the application review prepared under previous projects.

SSPE1 (lb/year)					
Permit #	**NO_x**	**SOx**	**PM_{10}**	**CO**	**VOC**
N-8234-1-2	--	--	570	--	--
N-8234-2-3	--	--	1,010	--	--
N-8234-3-2	--	--	6,388	--	--
N-8234-4-8	**4,634**	**250**	**17,424**	**9,811**	**18,856**
N-8234-5-8	**4,634**	**250**		**9,811**	
N-8234-6-8	**4,634**	**250**		**9,811**	
N-8234-7-2, '-8-2, '-9-2, '-14-1, '-16-0 and '-17-0	--	--	694	--	--
N-8234-10-1	1,412	366	385	4,748	513
N-8234-11-1					
N-8234-12-0	359	0	15	107	45
ERC	0	0	0	0	0
SSPE1	**15,673**	**1,116**	**26,486**	**34,288**	**19,414**

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 #	**NO_x**	**SOx**	**PM_{10}**	**CO**	**VOC**
N-8234-1-2	--	--	570	--	--
N-8234-2-3	--	--	1,010	--	--
N-8234-3-2	--	--	6,388	--	--
N-8234-4-12	**2,102**	**250**	**8,712**	**9,811**	**1,424**
N-8234-5-12	**2,102**	**250**		**9,811**	
N-8234-6-12	**2,102**	**250**		**9,811**	
Three RTOs serving N-8234-4, '-5, and '-6	**27,333**	**447**	**1,192**	**137,998**	**862**
N-8234-7-2, '-8-2, '-9-2, '-14-1, '-16-0 and '-17-0	--	--	694	--	--
N-8234-10-1	1,412	366	385	4,748	513
N-8234-11-1					
N-8234-12-0	359	0	15	107	45
ERC	0	0	0	0	0
SSPE2	**35,410**	**1,563**	**18,966**	**172,286**	**2,844**

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 nonroad IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

Rule 2201 Major Source Determination (lb/year)						
Category	**NO_X**	**SO_X**	**PM_{10}**	***$PM_{2.5}$**	**CO**	**VOC**
SSPE1	15,673	1,116	26,486	26,486	34,288	19,414
SSPE2	35,410	1,563	18,966	18,966	172,286	2,844
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	**Yes**	No	No	No	No	No

*$PM_{2.5}$ assumed to be equal to PM_{10}

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	7.8	9.7	0.6	17.1	13.2	13.2
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

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.

N-8234-4 through '-6:
This facility is not an existing Major Source for any pollutant.

Therefore BE = PE1 for each pollutant.

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."

NOx

Conservatively, "Project's PE2", that is, sum of the potential emissions from the units involved in this project, is compared to SB-288 Major Modification thresholds, to determine whether or not the SB-288 Major Modification calculations are required.

SB 288 Major Modification Thresholds			
Pollutant	**Project PE2 (lb/year)**	**Threshold (lb/year)**	**SB 288 Major Modification Calculation Required?**
NO_x	33,639*	50,000	No

*2,102 lb-NOx/yr-dryer x 3 dryers + 27,333 lb-NOx/yr for all three RTOs = 33,639 lb-NOx/yr

Since the SB 288 Major Modification Thresholds are not surpassed with this project, this project does not constitute an SB 288 Major Modification for NOx emissions and no further discussion is required.

SOx, PM_{10}, VOC, CO

As seen in table in Section VII.C.5 above, SSPE2 for SOx, PM_{10}, VOC, and CO does not surpass their respective Major Source threshold level; consequently, the proposed project cannot trigger an SB-288 Major Modification for these pollutants.

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.

SOx, PM_{10}, VOC, CO

As seen in table in Section VII.C.5 above, SSPE2 for SOx, PM_{10}, VOC, and CO does not surpass their respective Major Source threshold levels; consequently, the proposed project cannot trigger Federal Modification for these pollutants.

NOx

As seen in Table VII.C.5 above, DPF is not currently a Major Source for NOx but the facility's post-project NOx emissions will be above the Major Source Threshold as a result of this project. Since the facility is not an existing Major Source for NOx emissions, this permitting action cannot trigger a Federal Major Modification.

New Major Source

Since facility's post-project NOx emissions will be above Major Source Threshold, the project NOx emissions increase will be compared to the Federal Major Source threshold for NOx to determine whether the project results in a New Major Source according to 40 CFR 51.165 a(1)(iv)(A)(3).

Project Emissions Increase = (2,102 lb-NOx/yr-dryer x 3 dryers + 27,333 lb-NOx/yr for all three RTOs) – (4,634 lb-NOx/yr permit unit x 3 permit units)
= 33,639 lb-NOx/yr – 13,902 lb-NOx/yr
= 19,737 lb-NOx/yr

The project NOx emissions increase is compared to the Federal Major Source threshold for NOx in the table below.

New Major Source Determination			
Pollutant	**Project Emission Increase (lb/year)**	**Threshold (lb/year)**	**New Major Source?**
NO_x	19,737	20,000	No

Since the project's NOx emissions increase does not exceed the Major Source threshold, this facility is NOT a New Major Source as a result of this permitting action and no further discussion is required.

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
- PM_{10}

I. Project Emissions Increase - New Major Source Determination

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

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(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 (N-8234-4, '-5 & '-6)	16.8	1.1	0.6	83.7	5.0	5.0
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

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 E**.

VIII. Compliance Determination

Rule 1080 Stack Monitoring

This rule grants the APCO the authority to request the installation, use, maintenance, and inspection of continuous emissions monitors, and specifies performance standards for the equipment and administrative requirements for recordkeeping, reporting, and notification.

DPF has proposed to monitor NOx emissions rate from pet food processing operations using continous emissions rate monitoring system (CERMS). CERMS will be installed on each RTO stack. The following conditions will be included in the permits:

- The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Emission Rate Monitoring System (CERMS) which continuously measures and records the exhaust gas NOx concentrations and exhaust flow rate, at the exhaust stack of each RTO system. CERMS shall monitor emissions during all types of operation, including during startup and shutdown periods, provided the CERMS passes the relative accuracy requirement specified herein during startups and shutdowns periods. If relative accuracy of CERMS cannot be demonstrated during startup or shutdown periods, CERMS results during startup and shutdown events shall be replaced with startup emission rates obtained during the previous NOx source testing conducted on January 24, 2019. [District Rules 1080 and 2201]

- The CERMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rules 1080 and 2201]

- The CERMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 for CEMS and Part 60, Appendix B Performance Specification 6 (PS6), or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rules 1080 and 2201]

- In accordance with 40 CFR Part 60, Appendix F, NOx monitor must be audited at least once each calendar quarter, by conducting cylinder gas audits (CGA) or relative accuracy audits (RAA). CGA or RAA may be conducted three of four calendar quarters, but no more than three calendar quarters in succession. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rules 1080 and 2201]

- The owner/operator shall perform a RATA for NOx (as specified in 40 CFR Part 60, Appendix F) and flow rate sensor at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the CERMS equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F for CEMS equipment. [District Rules 1080 and 2201]

- APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rules 1080 and 2201]

- The CERMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rules 1080 and 2201]

- Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CERMS. This summary shall be in the form and the manner prescribed by the District. [District Rule 1080]

- The facility shall install and maintain equipment, facilities, and systems compatible with the District's CERMS data polling software system and shall make CERMS data available to the District's automated polling system on a daily basis. [District Rule 1080]

- Upon notice by the District that the facility's CERMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CERMS data is sent to the District by a District-approved alternative method. [District Rule 1080]

- The permittee shall maintain the following records for CERMS equipment: (1) Date, time and duration of any malfunction; (2) Date of performance testing; (3) Date of evaluations, calibrations, checks, and adjustments; and (4) Date and time period for which CERMS was inoperative. [District Rule 1080]

- The owner or operator shall maintain records of NOx emissions and submit a written report each calendar quarter to the District containing the following information for each operating day: (1) Calendar date; (2) The average hourly NOx emission rate (expressed as NO2, lb/hr) measured at the exhaust of each RTO; (3) The total average hourly NOx emission rate (expressed as NO2, lb/hr) for all three RTOs using average hourly NOx emission rate at the exhaust of each RTO (item 2); (4) The total daily NOx emission rates (lb/day) calculated at the end of each operating day from the measured total average hourly NOx emission rates; (5) The total monthly NOx emission rate (lb/month) calculated at the end of each month using total daily NOx emissions rate; (6) The total annual NOx emission rate (lb/year, on a rolling 12-month basis) calculated at the end of each month using total monthly NOx emission rate; (7) Identification of the operating days when the calculated total hourly average NOx emission rates are in excess of the permitted NOx emissions, with the reasons for such excess emissions as well as a description of corrective actions taken; (8) Identification of the operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (9) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding such data; (10) Identification of each parameter used in calculations; (11) Identification of the times when the pollutant concentration exceeded full span of the CERMS; (12) Description of any modifications to the CERMS that could affect the ability of the CERMS to comply with Performance Specification 6; (13) Results of daily CERMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of Part 60; and (14) A

negative declaration when no excess emissions occurred. The report is due on the 30th day following the end of the calendar quarter. [District Rules 1080 and 2201]

- The owner or operator may submit electronic quarterly reports in lieu of submitting the written reports. The format of each quarterly electronic report shall be coordinated with the District. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this permit was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the District to obtain their agreement to submit reports in this alternative format. [District Rule 1080 and 2201]

Compliance is expected with this rule.

Rule 1081 Source Sampling

This rule requires adequate and safe sampling facilities such as sampling ports, sampling platforms, access to the sampling platforms for use in sampling to determine compliance with emissions limits, and specifies methods and procedures for source testing and sample collection. The following conditions will be included in the permits:

- The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

- Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

- Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081]

- The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Compliance is expected with this Rule.

Rule 1100 Equipment Breakdown

This rule defines a breakdown condition and the procedures to follow if one occurs. The corrective action, the issuance of an emergency variance, and the reporting requirements are also specified. The following conditions will be included in the permits:

- The owner or operator shall notify the District of any breakdown condition (as defined in section 3.1 of District Rule 1100) as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

- The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

Compliance is expected with this Rule.

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, 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 Adjusted Increase in Permitted Emissions (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

The proposed RTOs will reduce VOC emissions, as well as, other odorous compounds from the pet food manufacturing operations. Consequently, each RTO is an emission control device. The District practice is not to evaluate BACT on emissions control devices.

However, each RTO also generates process NOx emissions, as each RTO is believed to convert nitrogen bearing compounds into NOx emissions. To prevent NOx formation, the District evaluated the use of various technologies that could be installed upstream and/or downstream of the RTOs to minimize NOx emissions. These technologies include:

- Use of a scrubber upstream of the RTOs to remove amines, ammonia, and other nitrogen-bearing compounds in the exhaust stream prior to combustion in the RTOs,
- Use of a baghouse upstream of the RTO to capture particulates,
- Use of selective catalytic reduction (SCR) or eNOx downstream of the RTOs to control NOx emissions from the RTO exhausts.

As summarized in the table below, none of these technologies are not cost-effective; therefore, the use of these techniques is not required at this time.

Detailed cost analyses of each technology mentioned above are included in **Appendix G** of this document. The following table summarizes the control techniques as well as the cost effectiveness ($/ton) to reduce NOx emissions:

Location	Control Technique	Cost effectiveness ($/ton)
Upstream of the RTO (pre-treatment)	Aqueous scrubber (Removes amines, ammonia, and other nitrogen bearing compounds)	$223,417/ton of NOx reduced
	Baghouse (removes particulates causing NOx)	$147,678/ton of NOx reduced
Downstream of the RTO (post-treatment	Selective catalytic reduction (SCR) (Ammonia injection into SCR to convert NOx to N_2)	$121,674/ton of NOx reduced
	eNOx (low-temperature oxidation using ozone injection and conversion to HNO_3)	$173,836/ton of NOx reduced

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.

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

AIPE = PE2 – HAPE

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)
HAPE = PE1 x (EF2/EF1)

Where,
PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$AIPE = PE2 – (PE1 * (EF2 / EF1))$

N-8234-4, '-5 and '-6
Natural gas combustion in dryer:
For each dryer, EF2 = EF1, PE2 = PE1 for each pollutant. Thus, AIPE is zero for each pollutant.

Process emissions:
There are several source operations/emission units under each permit.

PM_{10}:
PE2 = 23.9 lb-PM_{10}/day
PE1 = 47.7 lb-PM_{10}/day
EF2 = 0.0306 lb-PM_{10}/ton of finished product
EF1 = 0.0612 lb-PM_{10}/ton of finished product
AIPE = 23.9 – (47.7 x (0.0306/0.0612)) = 23.9 – 23.9 = 0.0 lb-PM_{10}/day

Since AIPE is not greater 2.0 lb/day, BACT is not triggered for PM_{10} emissions.

VOC:
PE2 = 3.9 lb-VOC/day
PE1 = 36.7 lb-VOC/day
EF1 = 0.047 lb-VOC/ton of finished product
EF2 = 0.005 lb-VOC/ton of finished product

AIPE = 3.9 – (36.7 x (0.005/0.047)) = 3.9 – 3.9 = 0 lb-VOC/day

Since AIPE is not greater 2.0 lb/day, BACT is not triggered for VOC emissions.

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 for any pollutant. Therefore BACT is not triggered for any pollutant.

B. Offsets

1. Offset Applicability

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

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

Offset Determination (lb/year)					
	NO_X	**SO_X**	**PM_{10}**	**CO**	**VOC**
SSPE2	35,410	1,563	18,966	172,286	2,844
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	**Yes**	No	No	No	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_X only. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for NO_X is calculated as follows for sources with an SSPE1 less than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = [(SSPE2 – ROT + ICCE) x DOR]

Where,
SSPE2 = Post-Project Stationary Source Potential to Emit
ROT = Respective Offset Threshold, for the respective pollutant
ICCE = Increase in Cargo Carrier Emissions
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

The proposed project will not result in an increase in ICCE.

SSPE2 (NO_X) = 35,410 lb/year
Offset threshold (NO_X) = 20,000 lb/year
ICCE = 0 lb/year

DPF has proposed to use Emission Reduction Credit (ERC) certificate N-1525-2 to offset the increases in NO_X emissions associated with this project. These ERCs were generated at Gallo Glass Company, at 605 S Santa Cruz Ave, Modesto. DPF is within 15 miles of the ERC generation site. Since DPF's SSPE2 are above the Major Source threshold for

NOx, an offset ratio of 1.3:1 is applicable to this project. The amount of NO_X ERCs that need to be withdrawn is:

Offsets Required (lb/year) = [(35,410 – 20,000 + 0) x 1.3]
= 15,410 x 1.3
= 20,033 lb-NO_X/year

Calculating the appropriate quarterly emissions to be offset is as follows:

Quarterly offsets required (lb/qtr) = (20,033 lb-NO_X/year) ÷ (4 quarters/year)
= 5,008.25 lb-NOx/qtr

As shown in the calculation above, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds, the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

To adjust the quarterly amount of offsets required, the fractional amount of offsets required in each quarter will be summed and redistributed to each quarter based on the number of days in each quarter. The redistribution is based on the Quarter 1 having the fewest days and the Quarters 3 and 4 having the most days. The redistribution method is summarized in the following table:

Redistribution of Required Quarterly Offsets
(where X is the annual amount of offsets, and X ÷ 4 = Y.z)

Value of z	Quarter 1	Quarter 2	Quarter 3	Quarter 4
.0	Y	Y	Y	Y
.25	Y	Y	Y	Y+1
.5	Y	Y	Y+1	Y+1
.75	Y	Y+1	Y+1	Y+1

Therefore the appropriate quarterly emissions to be offset are as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total Annual
5,008	5,008	5,008	5,009	20,033

The applicant has stated that the facility plans to use ERC certificate N-1525-2 to offset the increases in NO_X emissions associated with this project. The above certificate has available quarterly NO_X credits as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #N-1525-2	7,000	7,000	7,000	7,000

As seen above, the facility has sufficient credits to fully offset the quarterly NO_X emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

- Prior to operating equipment under this Authority to Construct N-8234-4-12, N-8234-5-12 and N-8234-6-12, permittee shall surrender NO_X emission reduction credits for the following quantity of emissions: 1st quarter – 5,008 lb, 2nd quarter – 5,008 lb, 3rd quarter – 5,008 lb, and fourth quarter – 5,009 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number N-1525-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

3. ERC Withdrawal Calculations

The applicant must identify the ERC Certificate(s) to be used to offset the NOx emissions increase from project. As indicated in previous section, the applicant is proposing to use ERC certificate #N-1525-2 to mitigate the increases in NOx emissions associated with this project. See **Appendix F** for detailed ERC Withdrawal Calculations.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, 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

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	**SSPE1 (lb/year)**	**SSPE2 (lb/year)**	**Offset Threshold**	**Public Notice Required?**
NO_X	15,673	35,410	20,000 lb/year	**Yes**
SO_X	1,116	1,563	54,750 lb/year	No
PM_{10}	26,486	18,966	29,200 lb/year	No
CO	34,288	172,286	200,000 lb/year	No
VOC	19,414	2,844	20,000 lb/year	No

As demonstrated above, offset thresholds are surpassed for NO_X with this project; therefore public noticing is 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. Negative SSIPE values are equated to zero.

SSIPE Public Notice Thresholds					
Pollutant	**SSPE2 (lb/year)**	**SSPE1 (lb/year)**	**SSIPE (lb/year)**	**SSIPE Public Notice Threshold**	**Public Notice Required?**
NO_x	35,410	15,673	19,737	20,000 lb/year	No
SO_x	1,563	1,116	447	20,000 lb/year	No
PM_{10}	18,966	26,486	0	20,000 lb/year	No
CO	172,286	34,288	137,998	20,000 lb/year	**Yes**
VOC	2,844	19,414	0	20,000 lb/year	No

As demonstrated above, the SSIPEs for NO_X and CO are greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

e. Title V Significant Permit Modification

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

2. Public Notice Action

As discussed above, public noticing is required for this project, as the NOx offset threshold is being surpassed, and the SSIPE for NOx and CO each is greater than 20,000 lb/yr. Public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC permits under this project.

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.

Proposed Rule 2201 (DEL) Conditions:
Natural gas combustion in dryer:

- Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]

Process emissions:

- PM_{10} emissions from the operations (not including natural gas combustion in the RTO) covered under this permit shall not exceed 0.0306 pounds per ton of finished material produced. This emission limit includes process emissions, as well as, emissions from the natural gas combustion in the dryer. [District Rule 2201]

- The post control VOC emissions from the operations (not including natural gas combustion in the RTO) covered under this permit shall not exceed 0.005 pounds per ton of finished material produced. This emission limit includes process emissions, as well as, emissions from the natural gas combustion in the dryer. [District Rule 2201]

- The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]

- The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]

- The RTO(s) shall reduce the VOC emissions (not including VOC emissions from natural gas combustion in the RTO) from pet food manufacturing by at least 95% (by weight). [District Rule 2201]

RTO emissions:

- The total NOx emissions from the three RTO unit system and three dryers combined shall not exceed any of the following limits: 8.343 lb/hr and 200.4 lb/day and 33,639 lb/yr (12-month rolling basis). Compliance with these mass emission rates shall be demonstrated using NOx (ppmvd) and exhaust gas flow rate (Q, dry standard cubic feet per minute, dscfm) data recorded by the CERMS, according to the following equation: Emissions (lb/hr) = (NOx ppmvd x 46 lb/lb-mol x 60 min/hr x Q (dscfm)) ÷ (379.5 dscf/lb-mol x 1,000,000). Daily emissions for each RTO shall be calculated by summing the hourly emissions for the respective calendar day. Hourly or daily emissions data shall be used to calculate monthly emissions. Monthly data shall be used to calculate rolling 12-month totals. [District Rule 2201]

- Emissions due to natural gas combustion in each RTO shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.88 lb-CO/MMBtu and 0.0055 lb-VOC/MMBtu. [District Rule 2201]

- Heat input rate to each RTO shall not exceed any of the following limits: 184.8 MMBtu/day and 67,082 MMBtu/year (12-month rolling total). [District Rule 2201]

- Combined total heat input rate to all three RTOs shall not exceed 156,816 MMBtu/year (12-month rolling total). [District Rule 2201]

E. Compliance Assurance

1. Source Testing

N-8234-4 through '-6

Natural gas combustion in dryer:

DPF is not proposing any changes to the natural gas combustion emission factors, or the process rates. Therefore, source testing is not required to verify the dryer emissions. Any periodic source testing requirements in the existing permits will be replicated into the ATC permits under this project.

Process emissions:

District Policy APR 1705 (10/9/97), page 3, states that units equipped with afterburner, thermal incinerator, or catalytic incinerator for controlling VOC must be tested upon initial start-up and annually thereafter.

DPF has proposed to duct exhaust from pet food manufacturing operations into a main duct from where the stream will be equally divided into three ducts, one for each of three RTO systems.

DPF has proposed to reduce at least 95% (by wt.) of the influent VOC emissions from pet food processing operations. Therefore, they were required to conduct source testing within 60-days of initial startup and annually thereafter. DPF had conducted the initial test on January 24, 2019, and demonstrated successful compliance with VOC emissions and RTO control efficiency. Since DPF is not proposing any changes to the VOC emission factor or RTO control efficiency, initial VOC test is not required under these permits. DPF shall resume annual source testing as it is listed in their previous permits, which will be replicated in the ATCs under this project.

As noted under previous project N-1173791, in District's experience, RTO is a very reliable technology in reducing VOC emissions; therefore, the annual source test frequency is modified to align with the annual testing frequency in the other latest permits where RTO is required as control equipment. This testing frequency allows a facility to defer periodic annual test by 36 months after successful compliance demonstration on two consecutive annual source tests. If the result of any 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve months.

DPF will be required to conduct source testing under normal operating scenarios provided that normal conditions accommodate at least three 30-minute test runs. The pet food manufacturing line(s) must be operated at or above 90% of the maximum hourly process rate of the recipe(s) selected. The pet food recipe(s) chosen shall include at least 3% (by weight) of fresh meat that includes moisture in the meat. If multiple pet food lines are operated during the test, the operator must utilize the average production rate (tons of finished product produced) to demonstrate compliance with VOC emission limits (pounds per ton of finished product produced).

As stated previously, DPF has proposed to reduce at least 95% (by wt.) of the influent VOC emissions. Therefore, DPF was required to conduct a source test to measure VOC, both at the inlet and outlet of at least one of the RTO systems while operating all pet food manufacturing line(s) under normal conditions. The results of this source test will verify compliance with VOC emission limits and the proposed VOC control efficiency.

DPF will continually be required to collect samples from inlet and the outlet of an RTO. The outlet or exhaust of the RTO emissions will include some VOC emissions from natural gas fuel combustion in the RTO, therefore, DPF may calculate the process VOC emissions in the following manner:

$VOC_P = VOC_{inlet} - VOC_{outlet}$

Where,
VOC_P = Process VOC emissions, lb/hr
VOC_{inlet} = VOC, lb/hr from the samples collected from inlet of the RTO
VOC_{outlet} = VOC, lb/hr from the samples collected from outlet of the RTO excluding VOC emissions natural gas combustion in the RTO calculated as follows: 0.0055 lb/MMBtu x actual heat input rate to RTO during each test run

The process emissions calculated using above equation will be required to be translated into production basis (lb-VOC/ton of product production) using actual average pet food processing rate(s).

For process stream similar to DPF, combustion of VOC is believed to cause additional PM_{10} emissions. Therefore, Diamond was required to conduct a one time initial test to verify compliance with the PM_{10} emission limit. This test was conducted on January 24, 2019, and DPF has successfully demonstrated compliance with the PM_{10} emission limit. Under this project, DPF has proposed to re-establish process PM_{10} emission limit based on the testing results. Due to significant margin of compliance between the proposed value and the tested value, no additional source testing is required to verify PM_{10} emission limits.

Note that the pet food manufacturing lines are identical, therefore, demonstration of compliance by conducting a test on a single RTO unit is sufficient to demonstrate compliance for all units. Failure to comply with the emission limits or control efficiency will constitute a violation of all three pet food line permits.

RTO emissions:
As stated in the proposal section, DPF has proposed to revise NOx and CO emissions limits based on the data collected during January 24, 2019 testing and subsequent June and July 2019 portable analyzer readings.

NOx emissions will generate from natural gas combustion as well as from oxidation of exhaust stream from pet food operations, and can vary from one pet food recipe to another. These additional process NOx emissions exceeds facility's total emissions from below Major Source threshold (20,000 lb/yr) to above Major Source threshold and requires the facility to provide Offsets under Rule 2201. The proposed NOx limits are very close to the tested levels. To ensure compliance with these NOx limits, DPF has proposed to install, operate and maintain CERMS on each RTO stack to monitor and record the NOx emissions rate (see monitoring section below). In addition, NOx emissions at the exhaust of each RTO are required to be tested via certified source test company within 60 days of initial startup and at least once every 24 months thereafter. The periodic source test frequency is consistent with Rule 4309. All RTOs are required to be operated and tested simultaneously while treating exhaust stream from the pet food manufacturing lines.

CO emissions will generate from natural gas combustion as well as from oxidation of exhaust stream from pet food operations, and can vary from one pet food recipe to another. As stated previously, source test conducted on January 24, 2019 showed less than 0.05 lb-CO/MMBtu (steady state, burner on with production) and less than 0.24 lb-CO/MMBtu (startup, no production). Based on these results, DPF has proposed to establish a single limit of 0.88 lb-CO/MMBtu for all operating scenarios including startup and steady-state. Since there is a significant margin of compliance between the proposed value and the tested values, it is expected that the equipment will continually operate in compliance with CO emissions. Therefore, no additional source testing is required to verify CO emission limits.

2. Monitoring

N-8234-4 through '-6
DPF was required to monitor, record and establish a minimum temperature of the RTO combustion chamber while demonstrating successful compliance with the permitted VOC and PM_{10} emission limits.

During January 24, 1019 source testing, RTO combustion chamber temperature was 1,650°F. DPF has successfully demonstrated compliance with VOC, PM_{10}, and control efficiency limits under this test. Therefore, RTO combustion chamber is required to be maintained at or above 1650°F during pet food manufacturing operation.

DPF has proposed to install, operate and maintain CERMS on each RTO to monitor and record NOx emissions rate in the exhaust of each RTO. Refer to discussion under Rule 1080 above.

3. Recordkeeping

N-8234-4 through '-6
In addition to the existing recordkeeping requirements, DPF will be required to keep daily records of each RTO's combustion chamber temperature, heat input rate (hourly, daily and annual heat input rate), and NOx emissions (hourly, daily and annual). These records are required to be kept for a period of at least five year from the date each record is entered in a log book.

4. Reporting

N-8234-4 through '-6
Source testing reports are required to be submitted to the District within 60 days after completing each source test.

F. Ambient Air Quality Analysis (AAQA)

Section 4.14 of District Rule 2201 requires that an AAQA be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix D** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_X, CO, and SO_X. 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 PM_{10} 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 PM_{10} and $PM_{2.5}$.

Compliance is expected with this rule.

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

As discussed above, this facility is becoming a major source due to this project. Pursuant to Rule 2520 and as required by permit condition, the facility will have up to 12 months from the date of ATC issuance to either submit a Title V Application or comply with District Rule 2530 *Federally Enforceable Potential to Emit.*

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to pet food manufacturing operations.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

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. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to pet food manufacturing operations.

Rule 4101 Visible Emissions

Section 5.0, indicates that 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 dark or darker than Ringlemann 1 or equivalent to 20% opacity. The following condition will be included in each permit:

- 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]

Compliance is expected with this Rule.

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. The following condition will be included in each permit:

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

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 Technical Services Memo for this project (**Appendix D**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	**Cancer Risk**	**T-BACT Required**
N-8234-4-12	4.37×10^{-3} per million	No
N-8234-5-12	4.40×10^{-3} per million	No
N-8234-6-12	4.47×10^{-3} 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 D** of this report, the emissions increases for this project was determined to be less than significant.

Compliance is expected with this Rule.

Rule 4201 Particulate Matter Concentration

Section 3.0 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.

N-8234-4-12, '-5-12 and '-6-12:
Natural gas combustion in dryer:
Process emissions:
RTO emissions:

PM_{10} emissions	= 1.054 lb-PM_{10}/hr [(23.9+1.2) lb/day ÷ 24 hr/day]
Fraction (lb-PM_{10}/lb-PM)	= 100%
Exhaust flow rate	= 61,797 acfm
Exhaust gas temperature	= 218ºF
Moisture in exhaust gas	= 7% (assumed)

$$PM\left(\frac{gr}{dscf}\right)=\frac{\left(1.054\ \frac{lb\text{-}PM}{hr}\right)\left(7{,}000\frac{gr\text{-}PM}{lb\text{-}PM}\right)\left(\frac{hr}{60\ min}\right)}{\left(61{,}797\frac{ft^3}{min}\right)\left(\frac{460+60}{460+218}\right)(1\text{-}0.07)}=0.003\ \frac{gr\text{-}PM}{dscf}$$

Since PM emissions are not in excess of 0.1 gr/dscf, compliance is expected with this rule.

Rule 4202 Particulate Matter – Emission Rate

Section 4.0 of this rule, a person shall not discharge into the atmosphere from any one source operation PM emissions in excess of the maximum allowable limit (E_{max}), in lb/hr, determined by the following equation:

$E_{Max} = 3.59\ P^{0.62}$, for Process weight (P) less than or equal to 30 tons/hr
$E_{Max} = 17.31\ P^{0.16}$ for Process weight (P) greater than 30 tons/hr

N-8234-4-12, '-5-12 and '-6-12:
Natural gas combustion in dryer:
RTO emissions:
The units use gaseous fuel, which can't be a part of the process weight per definition of process weight. Therefore, maximum allowable limits cannot be determined.

Process emissions:
The applicant is not proposing any changes to the processing rate; therefore, continued compliance is expected with this rule.

Rule 4301 Fuel Burning Equipment

The requirements of section 5.0 are as follows:

- Combustion contaminates (TSP) - Not to exceed 0.1 gr/dscf @ 12% CO_2 and 10 lb/hr.
- SO_x emissions - Not to exceed 200 lb/hr
- NO_x emissions - Not to exceed 140 lb/hr

N-8234-4-10, '-5-10 and '-6-10:
Natural gas combustion in dryer:
The applicant is not proposing any changes to the emission factors or processing rate. Consequently, there would not be any changes to the emissions. Therefore, continued compliance is expected.

RTO emissions:
NO_x (lb/hr) = 2.541 lb/hr
SO_x (lb/hr) = 0.022 lb/hr

$$PM\left(\frac{gr}{dscf}\right) = \frac{\text{PM Emissions}\left(\frac{lb-PM}{MMBtu}\right)\times 7{,}000\ \frac{gr-PM}{lb-PM}}{F_{factor CO_2}\left(\frac{dscf}{MMBtu}\right)\times\left(\frac{100\%}{12\%}\right)}$$

$$= \frac{\left(0.0076\ \frac{lb-PM}{MMBtu}\right)\left(7{,}000\ \frac{gr-PM}{lb-PM}\right)}{\left(1{,}024.2\ \frac{dscf}{MMBtu}\right)\left(\frac{100\%}{12\%}\right)}$$

$$= 0.0\ \frac{gr-PM}{dscf}$$

The proposed emissions are below the limits of this Rule; therefore, compliance is expected.

Rule 4309 Dryer, Dehydrators, and Ovens

DPF is not proposing any changes to the emission factors, equipment rating, or any other parameter that would result in an increase in emissions. Furthermore, the existing requirements are all up to date with the latest version of this rule. Therefore, continued compliance is expected with this rule.

Rule 4801 Sulfur Compounds

Section 3.1 states that a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding a concentration of two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO_2) at the point of discharge on a dry basis averaged over 15 consecutive minutes.

For the proposed gaseous fuel combustion at a reference state of 60 °F, the Rule 4801 limit of 2,000 ppmvd is equivalent to:

$$\frac{(2000\ \text{ppmvd})\left(8{,}578\ \frac{\text{dscf}}{\text{MMBtu}}\right)\left(64\ \frac{\text{lb}-\text{SO}_x}{\text{lb}-\text{mol}}\right)}{\left(379.5\ \frac{\text{dscf}}{\text{lb}-\text{mol}}\right)(10^6)} \cong 2.9\ \frac{\text{lb}-\text{SO}_x}{\text{MMBtu}}$$

N-8234-4 through '-6:
SO_x emissions from the dryers, and RTO systems are based on 1.0 gr-S/100 scf, equivalent to 0.00285 lb/MMBtu. Since these emissions are less than 2.9 lb/MMBtu, each unit is expected to operate in compliance with this Rule.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

It is determined that another agency has prepared an environmental review document for the project. The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating greenhouse gas emissions. The District has determined that the applicant is responsible for implementing greenhouse gas mitigation measures, if any, imposed by the Lead Agency.

District CEQA Findings

The City of Ripon (City) is the public agency having principal responsibility for approving the Diamond Pet Food Processors of Ripon facility. As such, the City served as the Lead Agency.

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

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

Indemnification Agreement/Letter of Credit Determination

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

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

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC permits N-8234-4-12 through '-6-12 subject to the permit conditions on the attached draft ATC in **Appendix A**.

X. Billing Information

Annual Permit Fees			
Permit Number	**Fee Schedule**	**Fee Description**	**Annual Fee**
N-8234-4-12 through '-6-12 (each)	3020-02 H	17.7 MMBtu/hr	$1,128

Appendixes

A: Draft ATCs
B: Current PTOs
C: ATC N-8234-4-8, '-5-8 and '-6-8
D: HRA Summary
E: Quarterly Net Emissions Change
F: ERC Withdrawal Calculations
G: Cost Effectiveness Analysis

Appendix A
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-8234-6-12 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: DIAMOND PET FOOD PROCESSORS OF RIPON
MAILING ADDRESS: 942 S STOCKTON AVE
RIPON, CA 95366

LOCATION: 942 S STOCKTON AVE
RIPON, CA 95366

EQUIPMENT DESCRIPTION:
MODIFICATION OF PET FOOD PROCESSING LINE #3: INSTALL THREE DURR SYSTEMS, INC. ECOPURE RL-60 REGENERATIVE THERMAL OXIDIZERS (RTO) AND ASSOCIATED DUCT WORK TO TREAT LADEN AIR DISCHARGE FROM WET CYCLONE, DRYER & DRYER-COOLER, AND VERTICAL COOLER STACKS UNDER PERMITS N-8234-4, '-5 AND '-6, REMOVE COLD PLASMA INJECTION SYSTEMS AND ODORANT INJECTION SYSTEMS, AND MAKE CHANGES TO THE EXISTING REQUIREMENTS TO MATCH "AS-BUILT" PLANT CONFIGURATION, REVISE THE NOX, CO AND PM10 EMISSIONS LIMIT, REVISE THE HEAT INPUT RATE FOR EACH RTO, AND INSTALL A CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS) TO MONITOR AND RECORD NOX EMISSIONS RATE AT THE EXHAUST STACK OF EACH RTO

CONDITIONS

1. Authority to Construct N-8234-6-10 shall be cancelled upon implementation of this Authority to Construct permit. [District Rule 2201]
2. Within 12 months from the date of the issuance of this permit, the permittee shall either submit an application to comply with Rule 2520 (Federally Mandated Operating Permits) or shall comply with District Rule 2530 (Federally Enforceable Potential to Emit). If the facility chooses the option to comply with District Rule 2530, the facility shall notify the District by submitting a request to include the District Rule 2530 conditions on their permits to operate prior to the 12-month deadline. [District Rule 2520]
3. Prior to operating equipment under this Authority to Construct N-8234-4-12, N-8234-5-12 and N-8234-6-12, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 5,008 lb, 2nd quarter - 5,008 lb, 3rd quarter - 5,008 lb, and fourth quarter - 5,009 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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.

Samir Sheikh, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services
N-8234-6-12 : Nov 18 2020 3:59PM -- KAHLONJ : Joint Inspection NOT Required

4. ERC Certificate Number N-1525-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

6. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

7. All exhaust stacks under this permit 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]

8. {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]

9. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone. The owner or operator shall install and maintain a duct work to discharge exhaust from the wet cyclone (Horizon HT-68) into the duct connected to the RTO. [District Rules 2201 and 4201]

10. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install and maintain a duct work to discharge exhaust from the dryer cyclone (MAC HE60) into the duct connected to the RTO. [District Rules 2201 and 4102]

11. Cooler and Conveying System: The system consists of three cooler sections, all vented to a MAC high efficiency cyclone, a discharge conveyor for the transfer of dried kibbles into a hopper. The material from the hopper is pneumatically conveyed to an enclosed shaker screener. The owner or operator shall install and maintain a duct work to re-circulate the exhaust from the dryer cooler cyclone (MAC) into the Dryer System. [District Rules 2201 and 4102]

12. Fines Collection and Conveying System: This system collects fines from two locations in the dryer, the dryer cyclone discharge, and the cooler cyclone discharge, and vents these fines to a HORIZON SYSTEMS 28S WRDL8 baghouse. This baghouse is vented indoors. [District Rule 2201]

13. Screening and Conveying System. The system consists of an enclosed shaker screener, an enclosed surge bin, and an enclosed weigh belt. The fines (rejects) are dropped to the dumpsters. [District Rule 2201]

14. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

15. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to the finished product bins. Each bin shall be vented to a static sock filter. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to a barrel. The owner or operator shall install and maintain a duct work to discharge exhaust from the vertical cooler cyclone (MAC HE 52) into the duct connected to the RTO. [District Rules 2201 and 4102]

16. The owner or operator shall install, operate and maintain three identical Durr Systems, Inc.'s Ecopure RL-60 regenerative thermal oxidizers (RTO) each equipped with 7.7 MMBtu/hr burner, associated duct work and control equipment, to abate pet food odors and reduce VOC emissions from all pet food manufacturing lines discharge stacks (wet cyclone (Horizon HT-68), dryer cyclone (MAC HE60) and vertical cooler cyclone (MAC HE52)). [District Rules 2201 and 4102]

17. Each RTO shall be equipped with non-resettable fuel flow meter(s) to measure natural gas fuel flow into each RTO. [District Rule 2201]

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18. Each RTO's combustion chamber temperature shall be maintained at or above 1650 degrees Fahrenheit whenever odor abatement is occuring in the specific RTO. [District Rule 2201]

19. Each RTO's chamber shall be permanently equipped with temperature measurement devices to determine the average combustion chamber temperature. The combustion temperature shall be continuously monitored and recorded at least every 15-minutes whenever odor abatement is occuring in the specific RTO. The recorded temperature data shall be averaged over a 30-consecutive-minute block to demonstrate compliance with the established RTO combustion chamber temperature. Upon detecting any excursion, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2201]

20. Visible emissions, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.) shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]

21. The dryer and RTO(s) shall only be fired on PUC-quality natural gas. [District Rule 2201]

22. PM10 emissions from the operations (not including natural gas combustion in the RTO) covered under this permit shall not exceed 0.0306 pounds per ton of finished material produced. This emission limit includes process emissions, as well as, emissions from the natural gas combustion in the dryer. [District Rule 2201]

23. The post control VOC emissions from the operations (not including natural gas combustion in the RTO) covered under this permit shall not exceed 0.005 pounds per ton of finished material produced. This emission limit includes process emissions, as well as, emissions from the natural gas combustion in the dryer. [District Rule 2201]

24. No more than 36 tons of fresh meat, excluding moisture, shall be injected into the steam-conditioner in any one day. [District Rule 2201]

25. The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]

26. The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]

27. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]

28. The RTO(s) shall reduce the VOC emissions (not including VOC emissions from natural gas combustion in the RTO) from pet food manufacturing operations by at least 95% (by weight). [District Rule 2201]

29. The total NOx emissions from the three RTO unit system and three dryers combined shall not exceed any of the following limits: 8.343 lb/hr and 200.4 lb/day and 33,639 lb/yr (12-month rolling basis). Compliance with these mass emission rates shall be demonstrated using NOx (ppmvd) and exhaust gas flow rate (Q, dry standard cubic feet per minute, dscfm) data recorded by the CERMS, according to the following equation: Emissions (lb/hr) = (NOx ppmvd x 46 lb/lb-mol x 60 min/hr x Q (dscfm)) ÷ (379.5 dscf/lb-mol x 1000,000). Daily emissions for each RTO shall be calculated by summing the hourly emissions for the respective calendar day. Hourly or daily emissions data shall be used to calculate monthly emissions. Monthly data shall be used to calculate rolling 12-month totals. [District Rule 2201]

30. Emissions due to natural gas combustion in each RTO shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.88 lb-CO/MMBtu and 0.0055 lb-VOC/MMBtu. [District Rule 2201]

31. Heat input rate to each RTO shall not exceed any of the following limits: 184.8 MMBtu/day and 67,082 MMBtu/year (12-month rolling total). [District Rule 2201]

32. Combined total heat input rate to all three RTOs shall not exceed 156,816 MMBtu/year (12-month rolling toral). [District Rule 2201]

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33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the duct collecting discharge from other process streams), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

35. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

36. {3744} The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

37. {33} Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]

38. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

39. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 2201 and 4309]

40. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201 and 4309]

41. Source testing to determine NOx and CO emissions from the dryer at the exhaust stack of the MAC HE60 cyclone by obtaining samples upstream of the duct collecting discharge from other process streams shall be conducted at least once every 24 months. [District Rule 4309]

42. All dryer test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]

43. Source testing to measure steady state NOx emissions at the exhaust of each RTO system shall be conducted within 60 days of initial startup under this permit and at least once every 24 months thereafter. All RTOs shall be operated and tested simultaneously while treating exhaust stream from the pet food manufacturing lines. Should the permittee decide to use a different test methodology, the methodology must be approved by the District. [District Rule 2201]

44. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 2201 and 4309]

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45. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 2201 and 4309]

46. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2201 and 4309]

47. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]

48. For VOC source testing, one RTO system inlet and outlet may be sampled to determine compliance with various emission limits (i.e., VOC control efficiency, VOC emission limit) in this permit. The testing results may be substituted for the other RTO systems instead of sampling each RTO system. Failure to comply with any emission limit in this permit shall constitute violation of permits N-8234-4, '-5 and '-6. [District Rule 2201]

49. Source testing shall be conducted during an operating configuration representative of normal operations by selecting pet food recipe(s) that can be made continuously throughout the testing without any process interruptions or delays. Each pet food manufacturing line must be operated at or above 90% of the maximum hourly process rate of the chosen recipe. The pet food recipe chosen shall include at least 3% (by weight) of fresh meat. If multiple pet food lines are operated during the test, the operator must utilize the average production rate (tons of finished product produced) to demonstrate compliance with VOC emission limits (pounds per ton of finished product produced). [District Rule 2201 and 4102]

50. Source testing to determine compliance with process VOC emission limit (0.005 lb/ton of finished product produced) and VOC control efficiency (95% by weight) of the RTO shall be conducted at least once every twelve months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every thirty-six months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve months. [District Rule 2201]

51. The process VOC emissions shall be calculated as follows: VOC (lb/hr) = VOCinlet of the RTO (lb/hr) - VOCoutlet of the RTO (lb/hr). VOCoutlet of the RTO (lb/hr) = VOCmeasured at the outlet of RTO (lb/hr) - VOCnatural gas combustion in the RTO (lb/hr). The resulting emissions shall be translated into lb/ton basis using the actual average hourly pet food production rate(s). Should the permittee decide to use a different test methodology, the methodology must be approved by the District. [District Rule 2201]

52. A presurvey must be done prior to source testing to determine VOC compound analytes present in the effluent streams from wet cyclone, dryer cyclone, and vertical cooler cyclone using the methodology described in EPA Method 18, Section 16. The presurvey shall be used to develop the appropriate sampling approach to ensure efficient collection of all VOCs present in the effluent and to develop a specific list of target compounds to be quantified during the subsequent total VOC source testing. VOC source testing shall be conducted using EPA Methods 18, 25, 25A, or 308. EPA Methods 25 or 25A can be used to determine the total VOCs only if the analyzer is calibrated with appropriate compound as determined during the presurvey, and the total carbon mass is scaled to the mole fraction of an appropriate compound, with the balance being scaled to the relative mole fraction of other the identified compounds. The Method 25 or 25A scaling factor shall be reported in the source test report and may be listed in the Permit to Operate for future testing (if any) required by the District. Should the permittee decide to use a different test methodology, the methodology must be approved by the District. Upon approval from District's Compliance Division, data collected during previous presurveys of various effluent streams may be used to identify VOC compound analytes present in various effluent streams. [District Rule 2201]

53. The District may, at its discretion, require NOx, CO, VOC and PM10 source testing and odor panel testing at any time should conditions at the facility surrounding areas warrants such testing. [District Rules 2201 and 4201]

54. During each source test, the owner or operator shall keep track of all parameters that are used in demonstrating compliance with the limits in this permit, including, but not limited to: (1) date, (2) identification of pet food lines that are operated, (3) name of each recipe being produced, (4) amount of fresh meat injection rate, excluding moisture, into the steam-conditioner, (5) actual processing rate of finished product produced, tons/hour, (6) maximum hourly processing rate, tons/hour, for each recipe being produced, (7) RTO chamber temperature data (degrees Fahrenheit), (8) actual amount of fuel combusted in the dryer(s), (9) actual amount of fuel combusted in the RTO, and (10) CERMS data. [District Rules 2201 and 4102]

55. {3721} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

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56. The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Emission Rate Monitoring System (CERMS) which continuously measures and records the exhaust gas NOx concentrations and exhaust flow rate, at the exhaust stack of each RTO system. CERMS shall monitor emissions during all types of operation, including during startup and shutdown periods, provided the CERMS passes the relative accuracy requirement specified herein during startups and shutdowns periods. If relative accuracy of CERMS cannot be demonstrated during startup or shutdown periods, CERMS results during startup and shutdown events shall be replaced with startup emission rates obtained during the previous NOx source testing conducted on January 24, 2019. [District Rules 1080 and 2201]

57. The CERMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rules 1080 and 2201]

58. The CERMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 for CEMS and Part 60, Appendix B Performance Specification 6 (PS6), or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rules 1080 and 2201]

59. In accordance with 40 CFR Part 60, Appendix F, NOx monitor must be audited at least once each calendar quarter, by conducting cylinder gas audits (CGA) or relative accuracy audits (RAA). CGA or RAA may be conducted three of four calendar quarters, but no more than three calendar quarters in succession. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rules 1080 and 2201]

60. The owner/operator shall perform a RATA for NOx (as specified in 40 CFR Part 60, Appendix F) and flow rate sensor at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the CERMS equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F for CEMS equipment. [District Rules 1080 and 2201]

61. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rules 1080 and 2201]

62. The CERMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rules 1080 and 2201]

63. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CERMS. This summary shall be in the form and the manner prescribed by the District. [District Rule 1080]

64. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CERMS data polling software system and shall make CERMS data available to the District's automated polling system on a daily basis. [District Rule 1080]

65. Upon notice by the District that the facility's CERMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CERMS data is sent to the District by a District-approved alternative method. [District Rule 1080]

66. The permittee shall maintain the following records for CERMS equipment: (1) Date, time and duration of any malfunction; (2) Date of performance testing; (3) Date of evaluations, calibrations, checks, and adjustments; and (4) Date and time period for which CERMS was inoperative. [District Rule 1080]

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67. The owner or operator shall maintain records of NOx emissions and submit a written report each calendar quarter to the District containing the following information for each operating day: (1) Calendar date; (2) The average hourly NOx emission rate (expressed as NO2, lb/hr) measured at the exhaust of each RTO; (3) The total average hourly NOx emission rate (expressed as NO2, lb/hr) for all three RTOs using average hourly NOx emission rate at the exhaust of each RTO (item 2); (4) The total daily NOx emission rates (lb/day) calculated at the end of each operating day from the measured total average hourly NOx emission rates; (5) The total monthly NOx emission rate (lb/month) calculated at the end of each month using total daily NOx emissions rate; (6) The total annual NOx emission rate (lb/year, on a rolling 12-month basis) calculated at the end of each month using total monthly NOx emission rate; (7) Identification of the operating days when the calculated total hourly average NOx emission rates are in excess of the permitted NOx emissions, with the reasons for such excess emissions as well as a description of corrective actions taken; (8) Identification of the operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (9) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding such data; (10) Identification of each parameter used in calculations; (11) Identification of the times when the pollutant concentration exceeded full span of the CERMS; (12) Description of any modifications to the CERMS that could affect the ability of the CERMS to comply with Performance Specification 6; (13) Results of daily CERMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of Part 60; and (14) A negative declaration when no excess emissions occurred. The report is due on the 30th day following the end of the calendar quarter. [District Rules 1080 and 2201]

68. The owner or operator may submit electronic quarterly reports in lieu of submitting the written reports. The format of each quarterly electronic report shall be coordinated with the District. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this permit was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the District to obtain their agreement to submit reports in this alternative format. [District Rule 1080 and 2201]

69. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

70. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081]

71. The owner or operator shall notify the District of any breakdown condition (as defined in section 3.1 of District Rule 1100) as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

72. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

73. The owner or operator shall maintain daily records of the following items: (1) date, (2) name of the pet food recipe being produced, (3) RTO temperature monitoring data, (4) fresh meat injection rate, excluding moisture, into the steam conditioner (tons/day), (5) the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day), (6) amount of finished product produced by this line (tons/day); the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day), (7) heat input rate to each RTO, in MMBtu/day and in MMBtu/year on a rolling 12 consecutive month period, (8) combined total heat input rate to all three RTOs in MMBtu/year on a rolling 12 consecutive month period, (9) combined process and combustion NOx emissions at the exhaust of each RTO (including the contribution of dryer NOx emissions) in lb/day and lb/year on a rolling 12 consecutive month period, and (10) combined process and combustion NOx emissions at the exhaust of all three RTOs (including the contribution of NOx emissions from dryers) in lb/year on a rolling 12 consecutive month period. [District Rule 2201]

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74. Each RTO system (i.e., RTO, duct work, sensors, and other equipment) shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]

75. The owner or operator shall maintain all records of maintenance for each RTO system including date, RTO identification, reason for the maintenance, description of the maintenance activity, name of the individual performing the inspection and company affiliation. [District Rules 2201 and 4102]

76. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

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PERMIT NO: N-8234-5-12 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: DIAMOND PET FOOD PROCESSORS OF RIPON
MAILING ADDRESS: 942 S STOCKTON AVE
RIPON, CA 95366

LOCATION: 942 S STOCKTON AVE
RIPON, CA 95366

EQUIPMENT DESCRIPTION:
MODIFICATION OF PET FOOD PROCESSING LINE #2: INSTALL THREE DURR SYSTEMS, INC. ECOPURE RL-60 REGENERATIVE THERMAL OXIDIZERS (RTO) AND ASSOCIATED DUCT WORK TO TREAT LADEN AIR DISCHARGE FROM WET CYCLONE, DRYER & DRYER-COOLER, AND VERTICAL COOLER STACKS UNDER PERMITS N-8234-4, '-5 AND '-6, REMOVE COLD PLASMA INJECTION SYSTEMS AND ODORANT INJECTION SYSTEMS, AND MAKE CHANGES TO THE EXISTING REQUIREMENTS TO MATCH "AS-BUILT" PLANT CONFIGURATION, REVISE THE NOX, CO AND PM10 EMISSIONS LIMIT, REVISE THE HEAT INPUT RATE FOR EACH RTO, AND INSTALL A CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS) TO MONITOR AND RECORD NOX EMISSIONS RATE AT THE EXHAUST STACK OF EACH RTO

CONDITIONS

1. Authority to Construct N-8234-5-10 shall be cancelled upon implementation of this Authority to Construct permit. [District Rule 2201]
2. Within 12 months from the date of the issuance of this permit, the permittee shall either submit an application to comply with Rule 2520 (Federally Mandated Operating Permits) or shall comply with District Rule 2530 (Federally Enforceable Potential to Emit). If the facility chooses the option to comply with District Rule 2530, the facility shall notify the District by submitting a request to include the District Rule 2530 conditions on their permits to operate prior to the 12-month deadline. [District Rule 2520]
3. Prior to operating equipment under this Authority to Construct N-8234-4-12, N-8234-5-12 and N-8234-6-12, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 5,008 lb, 2nd quarter - 5,008 lb, 3rd quarter - 5,008 lb, and fourth quarter - 5,009 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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.

Samir Sheikh, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services
N-8234-5-12 : Nov 18 2020 3:59PM -- KAHLONJ : Joint Inspection NOT Required

4. ERC Certificate Number N-1525-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

6. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

7. All exhaust stacks under this permit 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]

8. {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]

9. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone. The owner or operator shall install and maintain a duct work to discharge exhaust from the wet cyclone (Horizon HT-68) into the duct connected to the RTO. [District Rules 2201 and 4201]

10. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install and maintain a duct work to discharge exhaust from the dryer cyclone (MAC HE60) into the duct connected to the RTO. [District Rules 2201 and 4102]

11. Cooler and Conveying System: The system consists of three cooler sections, all vented to a MAC high efficiency cyclone, a discharge conveyor for the transfer of dried kibbles into a hopper. The material from the hopper is pneumatically conveyed to an enclosed shaker screener. The owner or operator shall install and maintain a duct work to re-circulate the exhaust from the dryer cooler cyclone (MAC) into the Dryer System. [District Rules 2201 and 4102]

12. Fines Collection and Conveying System: This system collects fines from two locations in the dryer, the dryer cyclone discharge, and the cooler cyclone discharge, and vents these fines to a HORIZON SYSTEMS 28S WRDL8 baghouse. This baghouse is vented indoors. [District Rule 2201]

13. Screening and Conveying System. The system consists of an enclosed shaker screener, an enclosed surge bin, and an enclosed weigh belt. The fines (rejects) are dropped to the dumpsters. [District Rule 2201]

14. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

15. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to the finished product bins. Each bin shall be vented to a static sock filter. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to a barrel. The owner or operator shall install and maintain a duct work to discharge exhaust from the vertical cooler cyclone (MAC HE 52) into the duct connected to the RTO. [District Rules 2201 and 4102]

16. The owner or operator shall install, operate and maintain three identical Durr Systems, Inc.'s Ecopure RL-60 regenerative thermal oxidizers (RTO) each equipped with 7.7 MMBtu/hr burner, associated duct work and control equipment, to abate pet food odors and reduce VOC emissions from all pet food manufacturing lines discharge stacks (wet cyclone (Horizon HT-68), dryer cyclone (MAC HE60) and vertical cooler cyclone (MAC HE52)). [District Rules 2201 and 4102]

17. Each RTO shall be equipped with non-resettable fuel flow meter(s) to measure natural gas fuel flow into each RTO. [District Rule 2201]

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18. Each RTO's combustion chamber temperature shall be maintained at or above 1650 degrees Fahrenheit whenever odor abatement is occuring in the specific RTO. [District Rule 2201]

19. Each RTO's chamber shall be permanently equipped with temperature measurement devices to determine the average combustion chamber temperature. The combustion temperature shall be continuously monitored and recorded at least every 15-minutes whenever odor abatement is occuring in the specific RTO. The recorded temperature data shall be averaged over a 30-consecutive-minute block to demonstrate compliance with the established RTO combustion chamber temperature. Upon detecting any excursion, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2201]

20. Visible emissions, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.) shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]

21. The dryer and RTO(s) shall only be fired on PUC-quality natural gas. [District Rule 2201]

22. PM10 emissions from the operations (not including natural gas combustion in the RTO) covered under this permit shall not exceed 0.0306 pounds per ton of finished material produced. This emission limit includes process emissions, as well as, emissions from the natural gas combustion in the dryer. [District Rule 2201]

23. The post control VOC emissions from the operations (not including natural gas combustion in the RTO) covered under this permit shall not exceed 0.005 pounds per ton of finished material produced. This emission limit includes process emissions, as well as, emissions from the natural gas combustion in the dryer. [District Rule 2201]

24. No more than 36 tons of fresh meat, excluding moisture, shall be injected into the steam-conditioner in any one day. [District Rule 2201]

25. The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]

26. The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]

27. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]

28. The RTO(s) shall reduce the VOC emissions (not including VOC emissions from natural gas combustion in the RTO) from pet food manufacturing operations by at least 95% (by weight). [District Rule 2201]

29. The total NOx emissions from the three RTO unit system and three dryers combined shall not exceed any of the following limits: 8.343 lb/hr and 200.4 lb/day and 33,639 lb/yr (12-month rolling basis). Compliance with these mass emission rates shall be demonstrated using NOx (ppmvd) and exhaust gas flow rate (Q, dry standard cubic feet per minute, dscfm) data recorded by the CERMS, according to the following equation: Emissions (lb/hr) = (NOx ppmvd x 46 lb/lb-mol x 60 min/hr x Q (dscfm)) ÷ (379.5 dscf/lb-mol x 1000,000). Daily emissions for each RTO shall be calculated by summing the hourly emissions for the respective calendar day. Hourly or daily emissions data shall be used to calculate monthly emissions. Monthly data shall be used to calculate rolling 12-month totals. [District Rule 2201]

30. Emissions due to natural gas combustion in each RTO shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.88 lb-CO/MMBtu and 0.0055 lb-VOC/MMBtu. [District Rule 2201]

31. Heat input rate to each RTO shall not exceed any of the following limits: 184.8 MMBtu/day and 67,082 MMBtu/year (12-month rolling total). [District Rule 2201]

32. Combined total heat input rate to all three RTOs shall not exceed 156,816 MMBtu/year (12-month rolling toral). [District Rule 2201]

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33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the duct collecting discharge from other process streams), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

35. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

36. {3744} The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

37. {33} Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]

38. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

39. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 2201 and 4309]

40. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201 and 4309]

41. Source testing to determine NOx and CO emissions from the dryer at the exhaust stack of the MAC HE60 cyclone by obtaining samples upstream of the duct collecting discharge from other process streams shall be conducted at least once every 24 months. [District Rule 4309]

42. All dryer test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]

43. Source testing to measure steady state NOx emissions at the exhaust of each RTO system shall be conducted within 60 days of initial startup under this permit and at least once every 24 months thereafter. All RTOs shall be operated and tested simultaneously while treating exhaust stream from the pet food manufacturing lines. Should the permittee decide to use a different test methodology, the methodology must be approved by the District. [District Rule 2201]

44. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 2201 and 4309]

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45. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 2201 and 4309]

46. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2201 and 4309]

47. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]

48. For VOC source testing, one RTO system inlet and outlet may be sampled to determine compliance with various emission limits (i.e., VOC control efficiency, VOC emission limit) in this permit. The testing results may be substituted for the other RTO systems instead of sampling each RTO system. Failure to comply with any emission limit in this permit shall constitute violation of permits N-8234-4, '-5 and '-6. [District Rule 2201]

49. Source testing shall be conducted during an operating configuration representative of normal operations by selecting pet food recipe(s) that can be made continuously throughout the testing without any process interruptions or delays. Each pet food manufacturing line must be operated at or above 90% of the maximum hourly process rate of the chosen recipe. The pet food recipe chosen shall include at least 3% (by weight) of fresh meat. If multiple pet food lines are operated during the test, the operator must utilize the average production rate (tons of finished product produced) to demonstrate compliance with VOC emission limits (pounds per ton of finished product produced). [District Rule 2201 and 4102]

50. Source testing to determine compliance with process VOC emission limit (0.005 lb/ton of finished product produced) and VOC control efficiency (95% by weight) of the RTO shall be conducted at least once every twelve months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every thirty-six months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve months. [District Rule 2201]

51. The process VOC emissions shall be calculated as follows: VOC (lb/hr) = VOCinlet of the RTO (lb/hr) - VOCoutlet of the RTO (lb/hr). VOCoutlet of the RTO (lb/hr) = VOCmeasured at the outlet of RTO (lb/hr) - VOCnatural gas combustion in the RTO (lb/hr). The resulting emissions shall be translated into lb/ton basis using the actual average hourly pet food production rate(s). Should the permittee decide to use a different test methodology, the methodology must be approved by the District. [District Rule 2201]

52. A presurvey must be done prior to source testing to determine VOC compound analytes present in the effluent streams from wet cyclone, dryer cyclone, and vertical cooler cyclone using the methodology described in EPA Method 18, Section 16. The presurvey shall be used to develop the appropriate sampling approach to ensure efficient collection of all VOCs present in the effluent and to develop a specific list of target compounds to be quantified during the subsequent total VOC source testing. VOC source testing shall be conducted using EPA Methods 18, 25, 25A, or 308. EPA Methods 25 or 25A can be used to determine the total VOCs only if the analyzer is calibrated with appropriate compound as determined during the presurvey, and the total carbon mass is scaled to the mole fraction of an appropriate compound, with the balance being scaled to the relative mole fraction of other the identified compounds. The Method 25 or 25A scaling factor shall be reported in the source test report and may be listed in the Permit to Operate for future testing (if any) required by the District. Should the permittee decide to use a different test methodology, the methodology must be approved by the District. Upon approval from District's Compliance Division, data collected during previous presurveys of various effluent streams may be used to identify VOC compound analytes present in various effluent streams. [District Rule 2201]

53. The District may, at its discretion, require NOx, CO, VOC and PM10 source testing and odor panel testing at any time should conditions at the facility surrounding areas warrants such testing. [District Rules 2201 and 4201]

54. During each source test, the owner or operator shall keep track of all parameters that are used in demonstrating compliance with the limits in this permit, including, but not limited to: (1) date, (2) identification of pet food lines that are operated, (3) name of each recipe being produced, (4) amount of fresh meat injection rate, excluding moisture, into the steam-conditioner, (5) actual processing rate of finished product produced, tons/hour, (6) maximum hourly processing rate, tons/hour, for each recipe being produced, (7) RTO chamber temperature data (degrees Fahrenheit), (8) actual amount of fuel combusted in the dryer(s), (9) actual amount of fuel combusted in the RTO, and (10) CERMS data. [District Rules 2201 and 4102]

55. {3721} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

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56. The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Emission Rate Monitoring System (CERMS) which continuously measures and records the exhaust gas NOx concentrations and exhaust flow rate, at the exhaust stack of each RTO system. CERMS shall monitor emissions during all types of operation, including during startup and shutdown periods, provided the CERMS passes the relative accuracy requirement specified herein during startups and shutdowns periods. If relative accuracy of CERMS cannot be demonstrated during startup or shutdown periods, CERMS results during startup and shutdown events shall be replaced with startup emission rates obtained during the previous NOx source testing conducted on January 24, 2019. [District Rules 1080 and 2201]

57. The CERMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rules 1080 and 2201]

58. The CERMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 for CEMS and Part 60, Appendix B Performance Specification 6 (PS6), or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rules 1080 and 2201]

59. In accordance with 40 CFR Part 60, Appendix F, NOx monitor must be audited at least once each calendar quarter, by conducting cylinder gas audits (CGA) or relative accuracy audits (RAA). CGA or RAA may be conducted three of four calendar quarters, but no more than three calendar quarters in succession. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rules 1080 and 2201]

60. The owner/operator shall perform a RATA for NOx (as specified in 40 CFR Part 60, Appendix F) and flow rate sensor at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the CERMS equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F for CEMS equipment. [District Rules 1080 and 2201]

61. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rules 1080 and 2201]

62. The CERMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rules 1080 and 2201]

63. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CERMS. This summary shall be in the form and the manner prescribed by the District. [District Rule 1080]

64. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CERMS data polling software system and shall make CERMS data available to the District's automated polling system on a daily basis. [District Rule 1080]

65. Upon notice by the District that the facility's CERMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CERMS data is sent to the District by a District-approved alternative method. [District Rule 1080]

66. The permittee shall maintain the following records for CERMS equipment: (1) Date, time and duration of any malfunction; (2) Date of performance testing; (3) Date of evaluations, calibrations, checks, and adjustments; and (4) Date and time period for which CERMS was inoperative. [District Rule 1080]

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67. The owner or operator shall maintain records of NOx emissions and submit a written report each calendar quarter to the District containing the following information for each operating day: (1) Calendar date; (2) The average hourly NOx emission rate (expressed as NO2, lb/hr) measured at the exhaust of each RTO; (3) The total average hourly NOx emission rate (expressed as NO2, lb/hr) for all three RTOs using average hourly NOx emission rate at the exhaust of each RTO (item 2); (4) The total daily NOx emission rates (lb/day) calculated at the end of each operating day from the measured total average hourly NOx emission rates; (5) The total monthly NOx emission rate (lb/month) calculated at the end of each month using total daily NOx emissions rate; (6) The total annual NOx emission rate (lb/year, on a rolling 12-month basis) calculated at the end of each month using total monthly NOx emission rate; (7) Identification of the operating days when the calculated total hourly average NOx emission rates are in excess of the permitted NOx emissions, with the reasons for such excess emissions as well as a description of corrective actions taken; (8) Identification of the operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (9) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding such data; (10) Identification of each parameter used in calculations; (11) Identification of the times when the pollutant concentration exceeded full span of the CERMS; (12) Description of any modifications to the CERMS that could affect the ability of the CERMS to comply with Performance Specification 6; (13) Results of daily CERMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of Part 60; and (14) A negative declaration when no excess emissions occurred. The report is due on the 30th day following the end of the calendar quarter. [District Rules 1080 and 2201]

68. The owner or operator may submit electronic quarterly reports in lieu of submitting the written reports. The format of each quarterly electronic report shall be coordinated with the District. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this permit was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the District to obtain their agreement to submit reports in this alternative format. [District Rule 1080 and 2201]

69. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

70. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081]

71. The owner or operator shall notify the District of any breakdown condition (as defined in section 3.1 of District Rule 1100) as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

72. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

73. The owner or operator shall maintain daily records of the following items: (1) date, (2) name of the pet food recipe being produced, (3) RTO temperature monitoring data, (4) fresh meat injection rate, excluding moisture, into the steam conditioner (tons/day), (5) the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day), (6) amount of finished product produced by this line (tons/day); the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day), (7) heat input rate to each RTO, in MMBtu/day and in MMBtu/year on a rolling 12 consecutive month period, (8) combined total heat input rate to all three RTOs in MMBtu/year on a rolling 12 consecutive month period, (9) combined process and combustion NOx emissions at the exhaust of each RTO (including the contribution of dryer NOx emissions) in lb/day and lb/year on a rolling 12 consecutive month period, and (10) combined process and combustion NOx emissions at the exhaust of all three RTOs (including the contribution of NOx emissions from dryers) in lb/year on a rolling 12 consecutive month period. [District Rule 2201]

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74. Each RTO system (i.e., RTO, duct work, sensors, and other equipment) shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]

75. The owner or operator shall maintain all records of maintenance for each RTO system including date, RTO identification, reason for the maintenance, description of the maintenance activity, name of the individual performing the inspection and company affiliation. [District Rules 2201 and 4102]

76. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

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PERMIT NO: N-8234-4-12 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: DIAMOND PET FOOD PROCESSORS OF RIPON
MAILING ADDRESS: 942 S STOCKTON AVE
RIPON, CA 95366

LOCATION: 942 S STOCKTON AVE
RIPON, CA 95366

EQUIPMENT DESCRIPTION:
MODIFICATION OF PET FOOD PROCESSING LINE #1: INSTALL THREE DURR SYSTEMS, INC. ECOPURE RL-60 REGENERATIVE THERMAL OXIDIZERS (RTO) AND ASSOCIATED DUCT WORK TO TREAT LADEN AIR DISCHARGE FROM WET CYCLONE, DRYER & DRYER-COOLER, AND VERTICAL COOLER STACKS UNDER PERMITS N-8234-4, '-5 AND '-6, REMOVE COLD PLASMA INJECTION SYSTEMS AND ODORANT INJECTION SYSTEMS, AND MAKE CHANGES TO THE EXISTING REQUIREMENTS TO MATCH "AS-BUILT" PLANT CONFIGURATION, REVISE THE NOX, CO AND PM10 EMISSIONS LIMITS, REVISE THE HEAT INPUT RATE FOR EACH RTO, AND INSTALL A CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS) TO MONITOR AND RECORD NOX EMISSIONS RATE AT THE EXHAUST STACK OF EACH RTO

CONDITIONS

1. Authority to Construct N-8234-4-10 shall be cancelled upon implementation of this Authority to Construct permit. [District Rule 2201]
2. Within 12 months from the date of the issuance of this permit, the permittee shall either submit an application to comply with Rule 2520 (Federally Mandated Operating Permits) or shall comply with District Rule 2530 (Federally Enforceable Potential to Emit). If the facility chooses the option to comply with District Rule 2530, the facility shall notify the District by submitting a request to include the District Rule 2530 conditions on their permits to operate prior to the 12-month deadline. [District Rule 2520]
3. Prior to operating equipment under this Authority to Construct N-8234-4-12, N-8234-5-12 and N-8234-6-12, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 5,008 lb, 2nd quarter - 5,008 lb, 3rd quarter - 5,008 lb, and fourth quarter - 5,009 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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.

Samir Sheikh, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services

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4. ERC Certificate Number N-1525-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

6. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

7. All exhaust stacks under this permit 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]

8. {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]

9. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone. The owner or operator shall install and maintain a duct work to discharge exhaust from the wet cyclone (Horizon HT-68) into the duct connected to the RTO. [District Rules 2201 and 4201]

10. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install and maintain a duct work to discharge exhaust from the dryer cyclone (MAC HE60) into the duct connected to the RTO. [District Rules 2201 and 4102]

11. Cooler and Conveying System: The system consists of three cooler sections, all vented to a MAC high efficiency cyclone, a discharge conveyor for the transfer of dried kibbles into a hopper. The material from the hopper is pneumatically conveyed to an enclosed shaker screener. The owner or operator shall install and maintain a duct work to re-circulate the exhaust from the dryer cooler cyclone (MAC) into the Dryer System. [District Rules 2201 and 4102]

12. Fines Collection and Conveying System: This system collects fines from two locations in the dryer, the dryer cyclone discharge, and the cooler cyclone discharge, and vents these fines to a HORIZON SYSTEMS 28S WRDL8 baghouse. This baghouse is vented indoors. [District Rule 2201]

13. Screening and Conveying System. The system consists of an enclosed shaker screener, an enclosed surge bin, and an enclosed weigh belt. The fines (rejects) are dropped to the dumpsters. [District Rule 2201]

14. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

15. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to the finished product bins. Each bin shall be vented to a static sock filter. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to a barrel. The owner or operator shall install and maintain a duct work to discharge exhaust from the vertical cooler cyclone (MAC HE 52) into the duct connected to the RTO. [District Rules 2201 and 4102]

16. The owner or operator shall install, operate and maintain three identical Durr Systems, Inc.'s Ecopure RL-60 regenerative thermal oxidizers (RTO) each equipped with 7.7 MMBtu/hr burner, associated duct work and control equipment, to abate pet food odors and reduce VOC emissions from all pet food manufacturing lines discharge stacks (wet cyclone (Horizon HT-68), dryer cyclone (MAC HE60) and vertical cooler cyclone (MAC HE52)). [District Rules 2201 and 4102]

17. Each RTO shall be equipped with non-resettable fuel flow meter(s) to measure natural gas fuel flow into each RTO. [District Rule 2201]

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18. Each RTO's combustion chamber temperature shall be maintained at or above 1650 degrees Fahrenheit whenever odor abatement is occuring in the specific RTO. [District Rule 2201]

19. Each RTO's chamber shall be permanently equipped with temperature measurement devices to determine the average combustion chamber temperature. The combustion temperature shall be continuously monitored and recorded at least every 15-minutes whenever odor abatement is occuring in the specific RTO. The recorded temperature data shall be averaged over a 30-consecutive-minute block to demonstrate compliance with the established RTO combustion chamber temperature. Upon detecting any excursion, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2201]

20. Visible emissions, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.) shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]

21. The dryer and RTO(s) shall only be fired on PUC-quality natural gas. [District Rule 2201]

22. PM10 emissions from the operations (not including natural gas combustion in the RTO) covered under this permit shall not exceed 0.0306 pounds per ton of finished material produced. This emission limit includes process emissions, as well as, emissions from the natural gas combustion in the dryer. [District Rule 2201]

23. The post control VOC emissions from the operations (not including natural gas combustion in the RTO) covered under this permit shall not exceed 0.005 pounds per ton of finished material produced. This emission limit includes process emissions, as well as, emissions from the natural gas combustion in the dryer. [District Rule 2201]

24. No more than 36 tons of fresh meat, excluding moisture, shall be injected into the steam-conditioner in any one day. [District Rule 2201]

25. The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]

26. The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]

27. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]

28. The RTO(s) shall reduce the VOC emissions (not including VOC emissions from natural gas combustion in the RTO) from pet food manufacturing operations by at least 95% (by weight). [District Rule 2201]

29. The total NOx emissions from the three RTO unit system and three dryers combined shall not exceed any of the following limits: 8.343 lb/hr and 200.4 lb/day and 33,639 lb/yr (12-month rolling basis). Compliance with these mass emission rates shall be demonstrated using NOx (ppmvd) and exhaust gas flow rate (Q, dry standard cubic feet per minute, dscfm) data recorded by the CERMS, according to the following equation: Emissions (lb/hr) = (NOx ppmvd x 46 lb/lb-mol x 60 min/hr x Q (dscfm)) ÷ (379.5 dscf/lb-mol x 1000,000). Daily emissions for each RTO shall be calculated by summing the hourly emissions for the respective calendar day. Hourly or daily emissions data shall be used to calculate monthly emissions. Monthly data shall be used to calculate rolling 12-month totals. [District Rule 2201]

30. Emissions due to natural gas combustion in each RTO shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.88 lb-CO/MMBtu and 0.0055 lb-VOC/MMBtu. [District Rule 2201]

31. Heat input rate to each RTO shall not exceed any of the following limits: 184.8 MMBtu/day and 67,082 MMBtu/year (12-month rolling total). [District Rule 2201]

32. Combined total heat input rate to all three RTOs shall not exceed 156,816 MMBtu/year (12-month rolling toral). [District Rule 2201]

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33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the duct collecting discharge from other process streams), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

35. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

36. {3744} The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

37. {33} Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]

38. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

39. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 2201 and 4309]

40. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201 and 4309]

41. Source testing to determine NOx and CO emissions from the dryer at the exhaust stack of the MAC HE60 cyclone by obtaining samples upstream of the duct collecting discharge from other process streams shall be conducted at least once every 24 months. [District Rule 4309]

42. All dryer test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]

43. Source testing to measure steady state NOx emissions at the exhaust of each RTO system shall be conducted within 60 days of initial startup under this permit and at least once every 24 months thereafter. All RTOs shall be operated and tested simultaneously while treating exhaust stream from the pet food manufacturing lines. Should the permittee decide to use a different test methodology, the methodology must be approved by the District. [District Rule 2201]

44. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 2201 and 4309]

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45. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 2201 and 4309]

46. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2201 and 4309]

47. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]

48. For VOC source testing, one RTO system inlet and outlet may be sampled to determine compliance with various emission limits (i.e., VOC control efficiency, VOC emission limit) in this permit. The testing results may be substituted for the other RTO systems instead of sampling each RTO system. Failure to comply with any emission limit in this permit shall constitute violation of permits N-8234-4, '-5 and '-6. [District Rule 2201]

49. Source testing shall be conducted during an operating configuration representative of normal operations by selecting pet food recipe(s) that can be made continuously throughout the testing without any process interruptions or delays. Each pet food manufacturing line must be operated at or above 90% of the maximum hourly process rate of the chosen recipe. The pet food recipe chosen shall include at least 3% (by weight) of fresh meat. If multiple pet food lines are operated during the test, the operator must utilize the average production rate (tons of finished product produced) to demonstrate compliance with VOC emission limits (pounds per ton of finished product produced). [District Rule 2201 and 4102]

50. Source testing to determine compliance with process VOC emission limit (0.005 lb/ton of finished product produced) and VOC control efficiency (95% by weight) of the RTO shall be conducted at least once every twelve months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every thirty-six months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve months. [District Rule 2201]

51. The process VOC emissions shall be calculated as follows: VOC (lb/hr) = VOCinlet of the RTO (lb/hr) - VOCoutlet of the RTO (lb/hr). VOCoutlet of the RTO (lb/hr) = VOCmeasured at the outlet of RTO (lb/hr) - VOCnatural gas combustion in the RTO (lb/hr). The resulting emissions shall be translated into lb/ton basis using the actual average hourly pet food production rate(s). Should the permittee decide to use a different test methodology, the methodology must be approved by the District. [District Rule 2201]

52. A presurvey must be done prior to source testing to determine VOC compound analytes present in the effluent streams from wet cyclone, dryer cyclone, and vertical cooler cyclone using the methodology described in EPA Method 18, Section 16. The presurvey shall be used to develop the appropriate sampling approach to ensure efficient collection of all VOCs present in the effluent and to develop a specific list of target compounds to be quantified during the subsequent total VOC source testing. VOC source testing shall be conducted using EPA Methods 18, 25, 25A, or 308. EPA Methods 25 or 25A can be used to determine the total VOCs only if the analyzer is calibrated with appropriate compound as determined during the presurvey, and the total carbon mass is scaled to the mole fraction of an appropriate compound, with the balance being scaled to the relative mole fraction of other the identified compounds. The Method 25 or 25A scaling factor shall be reported in the source test report and may be listed in the Permit to Operate for future testing (if any) required by the District. Should the permittee decide to use a different test methodology, the methodology must be approved by the District. Upon approval from District's Compliance Division, data collected during previous presurveys of various effluent streams may be used to identify VOC compound analytes present in various effluent streams. [District Rule 2201]

53. The District may, at its discretion, require NOx, CO, VOC and PM10 source testing and odor panel testing at any time should conditions at the facility surrounding areas warrants such testing. [District Rules 2201 and 4201]

54. During each source test, the owner or operator shall keep track of all parameters that are used in demonstrating compliance with the limits in this permit, including, but not limited to: (1) date, (2) identification of pet food lines that are operated, (3) name of each recipe being produced, (4) amount of fresh meat injection rate, excluding moisture, into the steam-conditioner, (5) actual processing rate of finished product produced, tons/hour, (6) maximum hourly processing rate, tons/hour, for each recipe being produced, (7) RTO chamber temperature data (degrees Fahrenheit), (8) actual amount of fuel combusted in the dryer(s), (9) actual amount of fuel combusted in the RTO, and (10) CERMS data. [District Rules 2201 and 4102]

55. {3721} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

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56. The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Emission Rate Monitoring System (CERMS) which continuously measures and records the exhaust gas NOx concentrations and exhaust flow rate, at the exhaust stack of each RTO system. CERMS shall monitor emissions during all types of operation, including during startup and shutdown periods, provided the CERMS passes the relative accuracy requirement specified herein during startups and shutdowns periods. If relative accuracy of CERMS cannot be demonstrated during startup or shutdown periods, CERMS results during startup and shutdown events shall be replaced with startup emission rates obtained during the previous NOx source testing conducted on January 24, 2019. [District Rules 1080 and 2201]

57. The CERMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rules 1080 and 2201]

58. The CERMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 for CEMS and Part 60, Appendix B Performance Specification 6 (PS6), or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rules 1080 and 2201]

59. In accordance with 40 CFR Part 60, Appendix F, NOx monitor must be audited at least once each calendar quarter, by conducting cylinder gas audits (CGA) or relative accuracy audits (RAA). CGA or RAA may be conducted three of four calendar quarters, but no more than three calendar quarters in succession. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rules 1080 and 2201]

60. The owner/operator shall perform a RATA for NOx (as specified in 40 CFR Part 60, Appendix F) and flow rate sensor at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the CERMS equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F for CEMS equipment. [District Rules 1080 and 2201]

61. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rules 1080 and 2201]

62. The CERMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rules 1080 and 2201]

63. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CERMS. This summary shall be in the form and the manner prescribed by the District. [District Rule 1080]

64. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CERMS data polling software system and shall make CERMS data available to the District's automated polling system on a daily basis. [District Rule 1080]

65. Upon notice by the District that the facility's CERMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CERMS data is sent to the District by a District-approved alternative method. [District Rule 1080]

66. The permittee shall maintain the following records for CERMS equipment: (1) Date, time and duration of any malfunction; (2) Date of performance testing; (3) Date of evaluations, calibrations, checks, and adjustments; and (4) Date and time period for which CERMS was inoperative. [District Rule 1080]

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67. The owner or operator shall maintain records of NOx emissions and submit a written report each calendar quarter to the District containing the following information for each operating day: (1) Calendar date; (2) The average hourly NOx emission rate (expressed as NO2, lb/hr) measured at the exhaust of each RTO; (3) The total average hourly NOx emission rate (expressed as NO2, lb/hr) for all three RTOs using average hourly NOx emission rate at the exhaust of each RTO (item 2); (4) The total daily NOx emission rates (lb/day) calculated at the end of each operating day from the measured total average hourly NOx emission rates; (5) The total monthly NOx emission rate (lb/month) calculated at the end of each month using total daily NOx emissions rate; (6) The total annual NOx emission rate (lb/year, on a rolling 12-month basis) calculated at the end of each month using total monthly NOx emission rate; (7) Identification of the operating days when the calculated total hourly average NOx emission rates are in excess of the permitted NOx emissions, with the reasons for such excess emissions as well as a description of corrective actions taken; (8) Identification of the operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (9) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding such data; (10) Identification of each parameter used in calculations; (11) Identification of the times when the pollutant concentration exceeded full span of the CERMS; (12) Description of any modifications to the CERMS that could affect the ability of the CERMS to comply with Performance Specification 6; (13) Results of daily CERMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of Part 60; and (14) A negative declaration when no excess emissions occurred. The report is due on the 30th day following the end of the calendar quarter. [District Rules 1080 and 2201]

68. The owner or operator may submit electronic quarterly reports in lieu of submitting the written reports. The format of each quarterly electronic report shall be coordinated with the District. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this permit was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the District to obtain their agreement to submit reports in this alternative format. [District Rule 1080 and 2201]

69. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

70. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081]

71. The owner or operator shall notify the District of any breakdown condition (as defined in section 3.1 of District Rule 1100) as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

72. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

73. The owner or operator shall maintain daily records of the following items: (1) date, (2) name of the pet food recipe being produced, (3) RTO temperature monitoring data, (4) fresh meat injection rate, excluding moisture, into the steam conditioner (tons/day), (5) the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day), (6) amount of finished product produced by this line (tons/day); the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day), (7) heat input rate to each RTO, in MMBtu/day and in MMBtu/year on a rolling 12 consecutive month period, (8) combined total heat input rate to all three RTOs in MMBtu/year on a rolling 12 consecutive month period, (9) combined process and combustion NOx emissions at the exhaust of each RTO (including the contribution of dryer NOx emissions) in lb/day and lb/year on a rolling 12 consecutive month period, and (10) combined process and combustion NOx emissions at the exhaust of all three RTOs (including the contribution of NOx emissions from dryers) in lb/year on a rolling 12 consecutive month period. [District Rule 2201]

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74. Each RTO system (i.e., RTO, duct work, sensors, and other equipment) shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]

75. The owner or operator shall maintain all records of maintenance for each RTO system including date, RTO identification, reason for the maintenance, description of the maintenance activity, name of the individual performing the inspection and company affiliation. [District Rules 2201 and 4102]

76. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

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Appendix B
Current PTOs

PERMIT UNIT: N-8234-4-5 **EXPIRATION DATE:** 04/30/2025

EQUIPMENT DESCRIPTION:
PET FOOD PROCESSING LINE #1

PERMIT UNIT REQUIREMENTS

1. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 7.2 kW, 6 plasma cylinders, cold plasma injection system to abate odors in the air stream from the wet cyclone (Horizon HT-68) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
2. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install, maintain, and operate Uniqair's, 18 kW, 15 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cyclone (MAC HE60) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
3. Cooler and Conveying System: The system consists of three cooler sections, all vented to a MAC high efficiency cyclone, a discharge conveyor for the transfer of dried kibbles into a hopper. The material from the hopper is pneumatically conveyed to an enclosed shaker screener. The owner or operator shall install, maintain, and operate Uniqair's, 10.8 kW, 9 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cooler cyclone (MAC) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
4. Fines Collection and Conveying System: This system collects fines from two locations in the dryer, the dryer cyclone discharge, and the cooler cyclone discharge, and vents these fines to a HORIZON SYSTEMS 285 WRDL8 baghouse. This baghouse is vented indoors. [District Rule 2201]
5. Screening and Conveying System. The system consists of an enclosed shaker screener, an enclosed surge bin, and an enclosed weigh belt. The fines (rejects) are conveyed to the totes in the basement. The surge bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. Each tote shall have a tight-fitting lid with a static sock filter. [District Rule 2201]
6. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

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7. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to 14 finished product bins. Each bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to the totes in the basement. Each tote shall have a tight-fitting lid with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 3.6 kW, 3 plasma cylinders, cold plasma injection system to abate odors in the air stream from the vertical cooler cyclone (MAC HE52) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
8. Each reactor of the plasma injector system shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]
9. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
10. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
11. All exhaust stacks under this permit 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]
12. 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]
13. Visible emissions, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.) shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
14. PM10 emissions from the operations covered under this permit shall not exceed 0.0612 pounds per ton of finished material produced. [District Rule 2201]
15. VOC emissions from the operations covered under this permit shall not exceed 0.047 pounds per ton of finished material produced. [District Rule 2201]
16. Total NOx emissions from the operations covered under this permit shall not exceed 0.529 pounds per hour. [District Rules 2201 and 4102]
17. Total VOC emissions from the operations covered under this permit shall not exceed 1.529 pounds per hour. [District Rule 4102]
18. No more than 36 tons of ground meat, excluding moisture, shall be injected into the steam-conditioner in any one day. [District Rule 2201]
19. The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]
20. The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]
21. The dryer shall only be fired on PUC-quality natural gas. [District Rule 2201]
22. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]
23. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 2201 and 4309]
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201 and 4309]
27. Source testing to determine NOx and CO emissions from the dryer at the exhaust stack of the MAC HE60 cyclone by obtaining samples upstream of the plasma injection system shall be conducted at least once every 24 months. [District Rule 4309]
28. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
29. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
30. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
31. All dryer test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]
32. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]
33. A sellable pet food product, containing at least 3% (by weight) of ground meat, shall be produced during VOC source testing and odor control efficiency testing. [District Rules 2201 and 4102]
34. The District may, at its discretion, require VOC source testing and odor panel testing at any time should conditions at the facility or the surrounding area warrant such testing. [District Rules 2201 and 4201]
35. The amount of ground meat injected into the steam-conditioner, finished product produced, and all other applicable parameters (exhaust flow rate, temperature, pressure, etc.), shall be recorded during VOC source testing and odor panel testing. [District Rules 2201 and 4102]
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
37. The permittee shall monitor and record the stack concentration of NOx and O2 downstream of each plasma injection system using a portable emission monitor that meets District specifications, within 30 days of the date the respective plasma injection system becomes fully operational. Alternatively, the permittee may elect to conduct a source test to measure the stack concentration of NOx and O2 downstream of each plasma injection system using CARB Method 100 or EPA Method 7E, or another agreed upon source test method, within 60 days of the date the respective plasma injection system becomes fully operational. The results shall be converted into hourly NOx emissions (lb/hour) using exhaust flow rate (dscfm) from the latest source test report. For the purpose of this condition, fully operational is defined as the physical state when all variable frequency drives and plasma reaction cylinders on a respective plasma injection unit are operating normally, demonstrated by consistent operation for at least a two week period. The permittee shall keep record of the date on which each plasma injection system becomes fully operational, following the issuance date on this permit. [District Rule 2201]
38. Total NOx emissions (lb/hour) shall include NOx emissions from the following release points by taking portable analyzer measurements according to the manufacturer recommended procedures, or by conducting a District-approved source test, downstream of the cold plasma injection system serving: (1) Hot kibble conveying cyclone (HT-68), (2) dryer cyclone (MAC HE60), (3) dryer cooler cyclone (MAC), and (4) vertical cooler cyclone (MAC HE-52). [District Rule 2201]
39. The permittee shall maintain records of: (1) date and time of NOx and O2 measurements, (2) identification of the stack (e.g., hot kibble conveying cyclone (HT-68), dryer cyclone (MAC HE60), etc.) (3) O2 concentration in percent and the measured NOx concentrations, (4) exhaust flow rate (dscfm) in the latest NOx and CO source testing report, (5) NOx emissions (lb/hour), (6) total NOx emissions (lb/hour) from the operations covered under this permit unit, (7) make and model of exhaust gas analyzer, and (8) exhaust gas analyzer calibration records. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

40. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

41. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the plasma injection system), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

42. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

43. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

44. The owner or operator shall continuously monitor and record the following parameters for each cold plasma injection system: (1) date, (2) pressure drop across pre-filter (DP3), (3) pressure drop across high efficiency filter (DP2), (4) pressure drop across cold plasma reactor (DP1), (5) plasma air velocity (AV1) after the cold plasma reactor, and (6) variable frequency drive (VFD) signal (ON/OFF). The set point for each parameter shall be as follows: DP3 < 400 Pa, DP2 < 400 Pa, DP1 <4,000 Pa, AV1 > 2 m/sec, and VFD signal in ON status. These parameters shall be recorded at least once every 15-minutes. The recorded parameters (except for VFD signal) shall be averaged over 60-minute blocks and compared with the established acceptable set points. Upon detecting any excursion, the owner or operator shall investigate the excursion and take corrective action to minimize odorous emissions and prevent recurrence of the excursion as expeditiously as practical, but no longer than 1 hour of operation after detection. If the monitoring equipment continues to show non-conformity with the established parameter(s) after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a thorough inspection, and repair of the cold plasma injection system within 24 hours of the first exceedance. In lieu of conducting a thorough inspection and repair of the cold plasma injection system, the owner or operator may stipulate a violation that is subject to enforcement action has occurred. The owner or operator must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the excursions are the result of a qualifying breakdown condition pursuant to Rule 1100, the owner or operator may fully comply with Rule 1100 in lieu of performing the notification required by this condition. [District Rule 4102]

45. The owner or operator shall maintain records of the date, the ground meat injection rate, excluding moisture, into the steam conditioner (tons/day), amount of finished product produced by this line (tons/day), and the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day). The combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day). [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

46. The owner or operator shall maintain all records of maintenance for cold plasma injector systems including any cold plasma reactor replacements. [District Rule 4102]

47. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

PERMIT UNIT: N-8234-6-5 **EXPIRATION DATE:** 04/30/2025

EQUIPMENT DESCRIPTION:
PET FOOD PROCESSING LINE #3

PERMIT UNIT REQUIREMENTS

1. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 7.2 kW, 6 plasma cylinders, cold plasma injection system to abate odors in the air stream from the wet cyclone (Horizon HT-68) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
2. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install, maintain, and operate Uniqair's, 18 kW, 15 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cyclone (MAC HE60) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
3. Cooler and Conveying System: The system consists of three cooler sections, all vented to a MAC high efficiency cyclone, a discharge conveyor for the transfer of dried kibbles into a hopper. The material from the hopper is pneumatically conveyed to an enclosed shaker screener. The owner or operator shall install, maintain, and operate Uniqair's, 10.8 kW, 9 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cooler cyclone (MAC) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
4. Fines Collection and Conveying System: This system collects fines from two locations in the dryer, the dryer cyclone discharge, and the cooler cyclone discharge, and vents these fines to a HORIZON SYSTEMS 285 WRDL8 baghouse. This baghouse is vented indoors. [District Rule 2201]
5. Screening and Conveying System. The system consists of an enclosed shaker screener, an enclosed surge bin, and an enclosed weigh belt. The fines (rejects) are conveyed to the totes in the basement. The surge bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. Each tote shall have a tight-fitting lid with a static sock filter. [District Rule 2201]
6. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

7. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to 14 finished product bins. Each bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to the totes in the basement. Each tote shall have a tight-fitting lid with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 3.6 kW, 3 plasma cylinders, cold plasma injection system to abate odors in the air stream from the vertical cooler cyclone (MAC HE52) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
8. Each reactor of the plasma injector system shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]
9. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
10. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
11. All exhaust stacks under this permit 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]
12. 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]
13. Visible emissions, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.) shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
14. PM10 emissions from the operations covered under this permit shall not exceed 0.0612 pounds per ton of finished material produced. [District Rule 2201]
15. VOC emissions from the operations covered under this permit shall not exceed 0.047 pounds per ton of finished material produced. [District Rule 2201]
16. Total NOx emissions from the operations covered under this permit shall not exceed 0.529 pounds per hour. [District Rules 2201 and 4102]
17. Total VOC emissions from the operations covered under this permit shall not exceed 1.529 pounds per hour. [District Rule 4102]
18. No more than 36 tons of ground meat, excluding moisture, shall be injected into the steam-conditioner in any one day. [District Rule 2201]
19. The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]
20. The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]
21. The dryer shall only be fired on PUC-quality natural gas. [District Rule 2201]
22. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]
23. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 2201 and 4309]
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201 and 4309]
27. Source testing to determine NOx and CO emissions from the dryer at the exhaust stack of the MAC HE60 cyclone by obtaining samples upstream of the plasma injection system shall be conducted at least once every 24 months. [District Rule 4309]
28. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
29. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
30. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
31. All dryer test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]
32. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]
33. A sellable pet food product, containing at least 3% (by weight) of ground meat, shall be produced during VOC source testing and odor control efficiency testing. [District Rules 2201 and 4102]
34. The District may, at its discretion, require VOC source testing and odor panel testing at any time should conditions at the facility or the surrounding area warrant such testing. [District Rules 2201 and 4201]
35. The amount of ground meat injected into the steam-conditioner, finished product produced, and all other applicable parameters (exhaust flow rate, temperature, pressure, etc.), shall be recorded during VOC source testing and odor panel testing. [District Rules 2201 and 4102]
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
37. The permittee shall monitor and record the stack concentration of NOx and O2 downstream of each plasma injection system using a portable emission monitor that meets District specifications, within 30 days of the date the respective plasma injection system becomes fully operational. Alternatively, the permittee may elect to conduct a source test to measure the stack concentration of NOx and O2 downstream of each plasma injection system using CARB Method 100 or EPA Method 7E, or another agreed upon source test method, within 60 days of the date the respective plasma injection system becomes fully operational. The results shall be converted into hourly NOx emissions (lb/hour) using exhaust flow rate (dscfm) from the latest source test report. For the purpose of this condition, fully operational is defined as the physical state when all variable frequency drives and plasma reaction cylinders on a respective plasma injection unit are operating normally, demonstrated by consistent operation for at least a two week period. The permittee shall keep record of the date on which each plasma injection system becomes fully operational, following the issuance date on this permit. [District Rule 2201]
38. Total NOx emissions (lb/hour) shall include NOx emissions from the following release points by taking portable analyzer measurements according to the manufacturer recommended procedures, or by conducting a District-approved source test, downstream of the cold plasma injection system serving: (1) Hot kibble conveying cyclone (HT-68), (2) dryer cyclone (MAC HE60), (3) dryer cooler cyclone (MAC), and (4) vertical cooler cyclone (MAC HE-52). [District Rule 2201]
39. The permittee shall maintain records of: (1) date and time of NOx and O2 measurements, (2) identification of the stack (e.g., hot kibble conveying cyclone (HT-68), dryer cyclone (MAC HE60), etc.) (3) O2 concentration in percent and the measured NOx concentrations, (4) exhaust flow rate (dscfm) in the latest NOx and CO source testing report, (5) NOx emissions (lb/hour), (6) total NOx emissions (lb/hour) from the operations covered under this permit unit, (7) make and model of exhaust gas analyzer, and (8) exhaust gas analyzer calibration records. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

40. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

41. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the plasma injection system), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

42. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

43. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

44. The owner or operator shall continuously monitor and record the following parameters for each cold plasma injection system: (1) date, (2) pressure drop across pre-filter (DP3), (3) pressure drop across high efficiency filter (DP2), (4) pressure drop across cold plasma reactor (DP1), (5) plasma air velocity (AV1) after the cold plasma reactor, and (6) variable frequency drive (VFD) signal (ON/OFF). The set point for each parameter shall be as follows: DP3 < 400 Pa, DP2 < 400 Pa, DP1 <4,000 Pa, AV1 > 2 m/sec, and VFD signal in ON status. These parameters shall be recorded at least once every 15-minutes. The recorded parameters (except for VFD signal) shall be averaged over 60-minute blocks and compared with the established acceptable set points. Upon detecting any excursion, the owner or operator shall investigate the excursion and take corrective action to minimize odorous emissions and prevent recurrence of the excursion as expeditiously as practical, but no longer than 1 hour of operation after detection. If the monitoring equipment continues to show non-conformity with the established parameter(s) after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a thorough inspection, and repair of the cold plasma injection system within 24 hours of the first exceedance. In lieu of conducting a thorough inspection and repair of the cold plasma injection system, the owner or operator may stipulate a violation that is subject to enforcement action has occurred. The owner or operator must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the excursions are the result of a qualifying breakdown condition pursuant to Rule 1100, the owner or operator may fully comply with Rule 1100 in lieu of performing the notification required by this condition. [District Rule 4102]

45. The owner or operator shall maintain records of the date, the ground meat injection rate, excluding moisture, into the steam conditioner (tons/day), amount of finished product produced by this line (tons/day), and the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day). The combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day). [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

46. The owner or operator shall maintain all records of maintenance for cold plasma injector systems including any cold plasma reactor replacements. [District Rule 4102]

47. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-8234-5-5 **EXPIRATION DATE:** 04/30/2025

EQUIPMENT DESCRIPTION:
PET FOOD PROCESSING LINE #2

PERMIT UNIT REQUIREMENTS

1. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 7.2 kW, 6 plasma cylinders, cold plasma injection system to abate odors in the air stream from the wet cyclone (Horizon HT-68) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
2. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install, maintain, and operate Uniqair's, 18 kW, 15 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cyclone (MAC HE60) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
3. Cooler and Conveying System: The system consists of three cooler sections, all vented to a MAC high efficiency cyclone, a discharge conveyor for the transfer of dried kibbles into a hopper. The material from the hopper is pneumatically conveyed to an enclosed shaker screener. The owner or operator shall install, maintain, and operate Uniqair's, 10.8 kW, 9 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cooler cyclone (MAC) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
4. Fines Collection and Conveying System: This system collects fines from two locations in the dryer, the dryer cyclone discharge, and the cooler cyclone discharge, and vents these fines to a HORIZON SYSTEMS 285 WRDL8 baghouse. This baghouse is vented indoors. [District Rule 2201]
5. Screening and Conveying System. The system consists of an enclosed shaker screener, an enclosed surge bin, and an enclosed weigh belt. The fines (rejects) are conveyed to the totes in the basement. The surge bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. Each tote shall have a tight-fitting lid with a static sock filter. [District Rule 2201]
6. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

7. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to 14 finished product bins. Each bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to the totes in the basement. Each tote shall have a tight-fitting lid with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 3.6 kW, 3 plasma cylinders, cold plasma injection system to abate odors in the air stream from the vertical cooler cyclone (MAC HE52) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]
8. Each reactor of the plasma injector system shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]
9. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
10. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
11. All exhaust stacks under this permit 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]
12. 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]
13. Visible emissions, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.) shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
14. PM10 emissions from the operations covered under this permit shall not exceed 0.0612 pounds per ton of finished material produced. [District Rule 2201]
15. VOC emissions from the operations covered under this permit shall not exceed 0.047 pounds per ton of finished material produced. [District Rule 2201]
16. Total NOx emissions from the operations covered under this permit shall not exceed 0.529 pounds per hour. [District Rules 2201 and 4102]
17. Total VOC emissions from the operations covered under this permit shall not exceed 1.529 pounds per hour. [District Rule 4102]
18. No more than 36 tons of ground meat, excluding moisture, shall be injected into the steam-conditioner in any one day. [District Rule 2201]
19. The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]
20. The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]
21. The dryer shall only be fired on PUC-quality natural gas. [District Rule 2201]
22. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]
23. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 2201 and 4309]
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201 and 4309]
27. Source testing to determine NOx and CO emissions from the dryer at the exhaust stack of the MAC HE60 cyclone by obtaining samples upstream of the plasma injection system shall be conducted at least once every 24 months. [District Rule 4309]
28. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
29. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
30. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
31. All dryer test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]
32. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]
33. A sellable pet food product, containing at least 3% (by weight) of ground meat, shall be produced during VOC source testing and odor control efficiency testing. [District Rules 2201 and 4102]
34. The District may, at its discretion, require VOC source testing and odor panel testing at any time should conditions at the facility or the surrounding area warrant such testing. [District Rules 2201 and 4201]
35. The amount of ground meat injected into the steam-conditioner, finished product produced, and all other applicable parameters (exhaust flow rate, temperature, pressure, etc.), shall be recorded during VOC source testing and odor panel testing. [District Rules 2201 and 4102]
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
37. The permittee shall monitor and record the stack concentration of NOx and O2 downstream of each plasma injection system using a portable emission monitor that meets District specifications, within 30 days of the date the respective plasma injection system becomes fully operational. Alternatively, the permittee may elect to conduct a source test to measure the stack concentration of NOx and O2 downstream of each plasma injection system using CARB Method 100 or EPA Method 7E, or another agreed upon source test method, within 60 days of the date the respective plasma injection system becomes fully operational. The results shall be converted into hourly NOx emissions (lb/hour) using exhaust flow rate (dscfm) from the latest source test report. For the purpose of this condition, fully operational is defined as the physical state when all variable frequency drives and plasma reaction cylinders on a respective plasma injection unit are operating normally, demonstrated by consistent operation for at least a two week period. The permittee shall keep record of the date on which each plasma injection system becomes fully operational, following the issuance date on this permit. [District Rule 2201]
38. Total NOx emissions (lb/hour) shall include NOx emissions from the following release points by taking portable analyzer measurements according to the manufacturer recommended procedures, or by conducting a District-approved source test, downstream of the cold plasma injection system serving: (1) Hot kibble conveying cyclone (HT-68), (2) dryer cyclone (MAC HE60), (3) dryer cooler cyclone (MAC), and (4) vertical cooler cyclone (MAC HE-52). [District Rule 2201]
39. The permittee shall maintain records of: (1) date and time of NOx and O2 measurements, (2) identification of the stack (e.g., hot kibble conveying cyclone (HT-68), dryer cyclone (MAC HE60), etc.) (3) O2 concentration in percent and the measured NOx concentrations, (4) exhaust flow rate (dscfm) in the latest NOx and CO source testing report, (5) NOx emissions (lb/hour), (6) total NOx emissions (lb/hour) from the operations covered under this permit unit, (7) make and model of exhaust gas analyzer, and (8) exhaust gas analyzer calibration records. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

40. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

41. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the plasma injection system), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

42. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

43. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

44. The owner or operator shall continuously monitor and record the following parameters for each cold plasma injection system: (1) date, (2) pressure drop across pre-filter (DP3), (3) pressure drop across high efficiency filter (DP2), (4) pressure drop across cold plasma reactor (DP1), (5) plasma air velocity (AV1) after the cold plasma reactor, and (6) variable frequency drive (VFD) signal (ON/OFF). The set point for each parameter shall be as follows: DP3 < 400 Pa, DP2 < 400 Pa, DP1 <4,000 Pa, AV1 > 2 m/sec, and VFD signal in ON status. These parameters shall be recorded at least once every 15-minutes. The recorded parameters (except for VFD signal) shall be averaged over 60-minute blocks and compared with the established acceptable set points. Upon detecting any excursion, the owner or operator shall investigate the excursion and take corrective action to minimize odorous emissions and prevent recurrence of the excursion as expeditiously as practical, but no longer than 1 hour of operation after detection. If the monitoring equipment continues to show non-conformity with the established parameter(s) after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a thorough inspection, and repair of the cold plasma injection system within 24 hours of the first exceedance. In lieu of conducting a thorough inspection and repair of the cold plasma injection system, the owner or operator may stipulate a violation that is subject to enforcement action has occurred. The owner or operator must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the excursions are the result of a qualifying breakdown condition pursuant to Rule 1100, the owner or operator may fully comply with Rule 1100 in lieu of performing the notification required by this condition. [District Rule 4102]

45. The owner or operator shall maintain records of the date, the ground meat injection rate, excluding moisture, into the steam conditioner (tons/day), amount of finished product produced by this line (tons/day), and the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day). The combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day). [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

46. The owner or operator shall maintain all records of maintenance for cold plasma injector systems including any cold plasma reactor replacements. [District Rule 4102]

47. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

Appendix C
ATC N-8234-4-8, ‘-5-8 and ‘-6-8

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: N-8234-4-8 **ISSUANCE DATE:** 07/12/2017

LEGAL OWNER OR OPERATOR: DIAMOND PET FOOD PROCESSORS OF RIPON
MAILING ADDRESS: 942 S STOCKTON AVE
RIPON, CA 95366

LOCATION: 942 S STOCKTON AVE
RIPON, CA 95366

EQUIPMENT DESCRIPTION:
MODIFICATION OF PET FOOD PROCESSING LINE #1: TO INCREASE DAILY AND ANNUAL ODOR COUNTERACTANT USAGE

CONDITIONS

1. Authority to Construct (ATC) N-8234-4-7 shall be implemented prior to, or concurrently with the implementation of this permit. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. All exhaust stacks under this permit 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]
5. 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. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 7.2 kW, 6 plasma cylinders, cold plasma injection system to abate odors in the air stream from the wet cyclone (Horizon HT-68) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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
N-8234-4-8 Jul 12 2017 8:15AM – KAHLONJ Joint Inspection NOT Required

7. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install, maintain, and operate Uniqair's, 18 kW, 15 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cyclone (MAC HE60) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

8. Cooler and Conveying System: The system consists of three cooler sections, all vented to a MAC high efficiency cyclone, a discharge conveyor for the transfer of dried kibbles into a hopper. The material from the hopper is pneumatically conveyed to an enclosed shaker screener. The owner or operator shall install, maintain, and operate Uniqair's, 10.8 kW, 9 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cooler cyclone (MAC) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

9. Fines Collection and Conveying System: This system collects fines from two locations in the dryer, the dryer cyclone discharge, and the cooler cyclone discharge, and vents these fines to a HORIZON SYSTEMS 285 WRDL8 baghouse. This baghouse is vented indoors. [District Rule 2201]

10. Screening and Conveying System. The system consists of an enclosed shaker screener, an enclosed surge bin, and an enclosed weigh belt. The fines (rejects) are conveyed to the totes in the basement. The surge bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. Each tote shall have a tight-fitting lid with a static sock filter. [District Rule 2201]

11. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

12. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to 14 finished product bins. Each bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to the totes in the basement. Each tote shall have a tight-fitting lid with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 3.6 kW, 3 plasma cylinders, cold plasma injection system to abate odors in the air stream from the vertical cooler cyclone (MAC HE52) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

13. Odorant Injection System: This system shall consist of a pump, an odor counteractant holding reservoir, and associated piping network. The system shall inject odor counteractant upstream of the blower and downstream of plasma injection system in any process stack (i.e., wet cyclone, dryer stack, cooler stack, or vertical cooler stack). The odorant injection system may be a stand-alone system for each stack, or a centrally located system to be shared among all process stacks under permits N-8234-4, '-5 and '-6. [District Rule 2201]

14. Each reactor of the plasma injector system shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]

15. OdoLoc-L100 shall be the only odor counteractant used. [District Rule 2201]

16. VOC emissions from odor counteractant use for each pet food manufacturing line shall not exceed any of the following limits: 22.5 lb/day and 5,475 lb/year. These limits equate to the use of 22.5 lb/day and 5,475 lb/year of OdoLoc-L100. [District Rule 2201]

17. Combined VOC emissions from odor counteractant use for all pet food manufacturing lines (N-8234-4, N-8234-5 and N-8234-6) shall not exceed any of the following limits: 22.5 lb/day and 5,475 lb/year. These limits equate to the use of 22.5 lb/day and 5,475 lb/year of OdoLoc-L100. [District Rule 2201]

18. Visible emissions, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.) shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]

19. PM10 emissions from the operations covered under this permit shall not exceed 0.0612 pounds per ton of finished material produced. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

20. VOC emissions from the operations (not including odorant injection VOCs) covered under this permit shall not exceed 0.047 pounds per ton of finished material produced. [District Rule 2201]
21. Total NOx emissions from the operations covered under this permit shall not exceed 0.529 pounds per hour. [District Rules 2201 and 4102]
22. Total VOC emissions from the operations (not including odorant injection VOCs) covered under this permit shall not exceed 1.529 pounds per hour. [District Rule 4102]
23. No more than 36 tons of ground meat, excluding moisture, shall be injected into the steam-conditioner in any one day. [District Rule 2201]
24. The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]
25. The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]
26. The dryer shall only be fired on PUC-quality natural gas. [District Rule 2201]
27. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]
28. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 2201 and 4309]
31. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201 and 4309]
32. Source testing to determine NOx and CO emissions from the dryer at the exhaust stack of the MAC HE60 cyclone by obtaining samples upstream of the plasma injection system shall be conducted at least once every 24 months. [District Rule 4309]
33. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
34. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
35. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
36. All dryer test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]
37. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]
38. A sellable pet food product, containing at least 3% (by weight) of ground meat, shall be produced during VOC source testing and odor control efficiency testing. [District Rules 2201 and 4102]
39. The District may, at its discretion, require VOC source testing and odor panel testing at any time should conditions at the facility or the surrounding area warrant such testing. [District Rules 2201 and 4201]
40. The amount of ground meat injected into the steam-conditioner, finished product produced, and all other applicable parameters (exhaust flow rate, temperature, pressure, etc.), shall be recorded during VOC source testing and odor panel testing. [District Rules 2201 and 4102]

CONDITIONS CONTINUE ON NEXT PAGE

41. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

42. The permittee shall monitor and record the stack concentration of NOx and O2 downstream of each plasma injection system using a portable emission monitor that meets District specifications, within 30 days of the date the respective plasma injection system becomes fully operational. Alternatively, the permittee may elect to conduct a source test to measure the stack concentration of NOx and O2 downstream of each plasma injection system using CARB Method 100 or EPA Method 7E, or another agreed upon source test method, within 60 days of the date the respective plasma injection system becomes fully operational. The results shall be converted into hourly NOx emissions (lb/hour) using exhaust flow rate (dscfm) from the latest source test report. For the purpose of this condition, fully operational is defined as the physical state when all variable frequency drives and plasma reaction cylinders on a respective plasma injection unit are operating normally, demonstrated by consistent operation for at least a two week period. The permittee shall keep record of the date on which each plasma injection system becomes fully operational, following the issuance date on this permit. [District Rule 2201]

43. Total NOx emissions (lb/hour) shall include NOx emissions from the following release points by taking portable analyzer measurements according to the manufacturer recommended procedures, or by conducting a District-approved source test, downstream of the cold plasma injection system serving: (1) Hot kibble conveying cyclone (HT-68), (2) dryer cyclone (MAC HE60), (3) dryer cooler cyclone (MAC), and (4) vertical cooler cyclone (MAC HE-52). [District Rule 2201]

44. The permittee shall maintain records of: (1) date and time of NOx and O2 measurements, (2) identification of the stack (e.g., hot kibble conveying cyclone (HT-68), dryer cyclone (MAC HE60), etc.) (3) O2 concentration in percent and the measured NOx concentrations, (4) exhaust flow rate (dscfm) in the latest NOx and CO source testing report, (5) NOx emissions (lb/hour), (6) total NOx emissions (lb/hour) from the operations covered under this permit unit, (7) make and model of exhaust gas analyzer, and (8) exhaust gas analyzer calibration records. [District Rule 2201]

45. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

46. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the plasma injection system), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

47. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

48. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

CONDITIONS CONTINUE ON NEXT PAGE

49. The owner or operator shall continuously monitor and record the following parameters for each cold plasma injection system: (1) date, (2) pressure drop across pre-filter (DP3), (3) pressure drop across high efficiency filter (DP2), (4) pressure drop across cold plasma reactor (DP1), (5) plasma air velocity (AV1) after the cold plasma reactor, and (6) variable frequency drive (VFD) signal (ON/OFF). The set point for each parameter shall be as follows: DP3 < 400 Pa, DP2 < 400 Pa, DP1 <4,000 Pa, AV1 > 2 m/sec, and VFD signal in ON status. These parameters shall be recorded at least once every 15-minutes. The recorded parameters (except for VFD signal) shall be averaged over 60-minute blocks and compared with the established acceptable set points. Upon detecting any excursion, the owner or operator shall investigate the excursion and take corrective action to minimize odorous emissions and prevent recurrence of the excursion as expeditiously as practical, but no longer than 1 hour of operation after detection. If the monitoring equipment continues to show non-conformity with the established parameter(s) after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a thorough inspection, and repair of the cold plasma injection system within 24 hours of the first exceedance. In lieu of conducting a thorough inspection and repair of the cold plasma injection system, the owner or operator may stipulate a violation that is subject to enforcement action has occurred. The owner or operator must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the excursions are the result of a qualifying breakdown condition pursuant to Rule 1100, the owner or operator may fully comply with Rule 1100 in lieu of performing the notification required by this condition. [District Rule 4102]

50. The owner or operator shall maintain records of the date, the ground meat injection rate, excluding moisture, into the steam conditioner (tons/day), amount of finished product produced by this line (tons/day), and the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day). The combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day). [District Rule 2201]

51. The owner or operator shall maintain all records of maintenance for cold plasma injector systems including any cold plasma reactor replacements. [District Rule 4102]

52. The owner or operator shall keep records of the following items for odorant injection system: (1) date, (2) odor counteractant used in pounds per day for this line, (3) total odor counteractant use in pounds per day for all pet food lines (N-8234-4, '-5 and '-6). If the odor counteractant injection rate is constant, the owner or operator may use 7-day weekly records to calculate the daily odor counteractant use by dividing the amount of the odor counteractant used in a given week (pounds per week) by the number of days of operation of odorant injection system (days per week). Any exceedance of daily permitted use of the odor counteractant calculated from weekly records would constitute a violation for each of the seven days. If the odor counteractant injection rate is not constant, the owner or operator shall keep daily records of the odor counteractant use. [District Rule 2201]

53. The owner or operator shall keep records of daily and annual VOC emissions due to odor counteractant use. [District Rule 2201]

54. The owner or operator shall maintain records of the latest version of the Safety Data Sheet (SDS) and purchase receipts containing date of purchase, name of the supplier, name and amount of the odor counteractant purchased. [District Rule 2201]

55. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: N-8234-5-8 **ISSUANCE DATE:** 07/12/2017

LEGAL OWNER OR OPERATOR: DIAMOND PET FOOD PROCESSORS OF RIPON
MAILING ADDRESS: 942 S STOCKTON AVE
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LOCATION: 942 S STOCKTON AVE
RIPON, CA 95366

EQUIPMENT DESCRIPTION:
MODIFICATION OF PET FOOD PROCESSING LINE #2: TO INCREASE DAILY AND ANNUAL ODOR COUNTERACTANT USAGE

CONDITIONS

1. Authority to Construct (ATC) N-8234-5-7 shall be implemented prior to, or concurrently with the implementation of this permit. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. All exhaust stacks under this permit 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]
5. 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. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 7.2 kW, 6 plasma cylinders, cold plasma injection system to abate odors in the air stream from the wet cyclone (Horizon HT-68) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin / Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-8234-5-8 : Jul 12 2017 8:15AM – KAHLONJ : Joint Inspection NOT Required

7. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install, maintain, and operate Uniqair's, 18 kW, 15 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cyclone (MAC HE60) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

8. Cooler and Conveying System: The system consists of three cooler sections, all vented to a MAC high efficiency cyclone, a discharge conveyor for the transfer of dried kibbles into a hopper. The material from the hopper is pneumatically conveyed to an enclosed shaker screener. The owner or operator shall install, maintain, and operate Uniqair's, 10.8 kW, 9 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cooler cyclone (MAC) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

9. Fines Collection and Conveying System: This system collects fines from two locations in the dryer, the dryer cyclone discharge, and the cooler cyclone discharge, and vents these fines to a HORIZON SYSTEMS 285 WRDL8 baghouse. This baghouse is vented indoors. [District Rule 2201]

10. Screening and Conveying System. The system consists of an enclosed shaker screener, an enclosed surge bin, and an enclosed weigh belt. The fines (rejects) are conveyed to the totes in the basement. The surge bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. Each tote shall have a tight-fitting lid with a static sock filter. [District Rule 2201]

11. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

12. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to 14 finished product bins. Each bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to the totes in the basement. Each tote shall have a tight-fitting lid with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 3.6 kW, 3 plasma cylinders, cold plasma injection system to abate odors in the air stream from the vertical cooler cyclone (MAC HE52) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

13. Odorant Injection System: This system shall consist of a pump, an odor counteractant holding reservoir, and associated piping network. The system shall inject odor counteractant upstream of the blower and downstream of plasma injection system in any process stack (i.e., wet cyclone, dryer stack, cooler stack, or vertical cooler stack). The odorant injection system may be a stand-alone system for each stack, or a centrally located system to be shared among all process stacks under permits N-8234-4, '-5 and '-6. [District Rule 2201]

14. Each reactor of the plasma injector system shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]

15. OdoLoc-L100 shall be the only odor counteractant used. [District Rule 2201]

16. VOC emissions from odor counteractant use for each pet food manufacturing line shall not exceed any of the following limits: 22.5 lb/day and 5,475 lb/year. These limits equate to the use of 22.5 lb/day and 5,475 lb/year of OdoLoc-L100. [District Rule 2201]

17. Combined VOC emissions from odor counteractant use for all pet food manufacturing lines (N-8234-4, N-8234-5 and N-8234-6) shall not exceed any of the following limits: 22.5 lb/day and 5,475 lb/year. These limits equate to the use of 22.5 lb/day and 5,475 lb/year of OdoLoc-L100. [District Rule 2201]

18. Visible emissions, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.) shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]

19. PM10 emissions from the operations covered under this permit shall not exceed 0.0612 pounds per ton of finished material produced. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

20. VOC emissions from the operations (not including odorant injection VOCs) covered under this permit shall not exceed 0.047 pounds per ton of finished material produced. [District Rule 2201]
21. Total NOx emissions from the operations covered under this permit shall not exceed 0.529 pounds per hour. [District Rules 2201 and 4102]
22. Total VOC emissions from the operations (not including odorant injection VOCs) covered under this permit shall not exceed 1.529 pounds per hour. [District Rule 4102]
23. No more than 36 tons of ground meat, excluding moisture, shall be injected into the steam-conditioner in any one day. [District Rule 2201]
24. The amount of finished product produced under this line shall not exceed 780 tons in any one day. [District Rule 2201]
25. The combined amount of finished product produced through all pet food manufacturing lines (N-8234-4, '-5 and '-6) shall not exceed 780 tons in any one day. [District Rule 2201]
26. The dryer shall only be fired on PUC-quality natural gas. [District Rule 2201]
27. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]
28. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rules 2201 and 4309]
31. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201 and 4309]
32. Source testing to determine NOx and CO emissions from the dryer at the exhaust stack of the MAC HE60 cyclone by obtaining samples upstream of the plasma injection system shall be conducted at least once every 24 months. [District Rule 4309]
33. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
34. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
35. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
36. All dryer test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]
37. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]
38. A sellable pet food product, containing at least 3% (by weight) of ground meat, shall be produced during VOC source testing and odor control efficiency testing. [District Rules 2201 and 4102]
39. The District may, at its discretion, require VOC source testing and odor panel testing at any time should conditions at the facility or the surrounding area warrant such testing. [District Rules 2201 and 4201]
40. The amount of ground meat injected into the steam-conditioner, finished product produced, and all other applicable parameters (exhaust flow rate, temperature, pressure, etc.), shall be recorded during VOC source testing and odor panel testing. [District Rules 2201 and 4102]

CONDITIONS CONTINUE ON NEXT PAGE

41. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

42. The permittee shall monitor and record the stack concentration of NOx and O2 downstream of each plasma injection system using a portable emission monitor that meets District specifications, within 30 days of the date the respective plasma injection system becomes fully operational. Alternatively, the permittee may elect to conduct a source test to measure the stack concentration of NOx and O2 downstream of each plasma injection system using CARB Method 100 or EPA Method 7E, or another agreed upon source test method, within 60 days of the date the respective plasma injection system becomes fully operational. The results shall be converted into hourly NOx emissions (lb/hour) using exhaust flow rate (dscfm) from the latest source test report. For the purpose of this condition, fully operational is defined as the physical state when all variable frequency drives and plasma reaction cylinders on a respective plasma injection unit are operating normally, demonstrated by consistent operation for at least a two week period. The permittee shall keep record of the date on which each plasma injection system becomes fully operational, following the issuance date on this permit. [District Rule 2201]

43. Total NOx emissions (lb/hour) shall include NOx emissions from the following release points by taking portable analyzer measurements according to the manufacturer recommended procedures, or by conducting a District-approved source test, downstream of the cold plasma injection system serving: (1) Hot kibble conveying cyclone (HT-68), (2) dryer cyclone (MAC HE60), (3) dryer cooler cyclone (MAC), and (4) vertical cooler cyclone (MAC HE-52). [District Rule 2201]

44. The permittee shall maintain records of: (1) date and time of NOx and O2 measurements, (2) identification of the stack (e.g., hot kibble conveying cyclone (HT-68), dryer cyclone (MAC HE60), etc.) (3) O2 concentration in percent and the measured NOx concentrations, (4) exhaust flow rate (dscfm) in the latest NOx and CO source testing report, (5) NOx emissions (lb/hour), (6) total NOx emissions (lb/hour) from the operations covered under this permit unit, (7) make and model of exhaust gas analyzer, and (8) exhaust gas analyzer calibration records. [District Rule 2201]

45. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

46. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the plasma injection system), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

47. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

48. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

CONDITIONS CONTINUE ON NEXT PAGE

49. The owner or operator shall continuously monitor and record the following parameters for each cold plasma injection system: (1) date, (2) pressure drop across pre-filter (DP3), (3) pressure drop across high efficiency filter (DP2), (4) pressure drop across cold plasma reactor (DP1), (5) plasma air velocity (AV1) after the cold plasma reactor, and (6) variable frequency drive (VFD) signal (ON/OFF). The set point for each parameter shall be as follows: DP3 < 400 Pa, DP2 < 400 Pa, DP1 <4,000 Pa, AV1 > 2 m/sec, and VFD signal in ON status. These parameters shall be recorded at least once every 15-minutes. The recorded parameters (except for VFD signal) shall be averaged over 60-minute blocks and compared with the established acceptable set points. Upon detecting any excursion, the owner or operator shall investigate the excursion and take corrective action to minimize odorous emissions and prevent recurrence of the excursion as expeditiously as practical, but no longer than 1 hour of operation after detection. If the monitoring equipment continues to show non-conformity with the established parameter(s) after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a thorough inspection, and repair of the cold plasma injection system within 24 hours of the first exceedance. In lieu of conducting a thorough inspection and repair of the cold plasma injection system, the owner or operator may stipulate a violation that is subject to enforcement action has occurred. The owner or operator must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the excursions are the result of a qualifying breakdown condition pursuant to Rule 1100, the owner or operator may fully comply with Rule 1100 in lieu of performing the notification required by this condition. [District Rule 4102]

50. The owner or operator shall maintain records of the date, the ground meat injection rate, excluding moisture, into the steam conditioner (tons/day), amount of finished product produced by this line (tons/day), and the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day). The combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day). [District Rule 2201]

51. The owner or operator shall maintain all records of maintenance for cold plasma injector systems including any cold plasma reactor replacements. [District Rule 4102]

52. The owner or operator shall keep records of the following items for odorant injection system: (1) date, (2) odor counteractant used in pounds per day for this line, (3) total odor counteractant use in pounds per day for all pet food lines (N-8234-4, '-5 and '-6). If the odor counteractant injection rate is constant, the owner or operator may use 7-day weekly records to calculate the daily odor counteractant use by dividing the amount of the odor counteractant used in a given week (pounds per week) by the number of days of operation of odorant injection system (days per week). Any exceedance of daily permitted use of the odor counteractant calculated from weekly records would constitute a violation for each of the seven days. If the odor counteractant injection rate is not constant, the owner or operator shall keep daily records of the odor counteractant use. [District Rule 2201]

53. The owner or operator shall keep records of daily and annual VOC emissions due to odor counteractant use. [District Rule 2201]

54. The owner or operator shall maintain records of the latest version of the Safety Data Sheet (SDS) and purchase receipts containing date of purchase, name of the supplier, name and amount of the odor counteractant purchased. [District Rule 2201]

55. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: N-8234-6-8 **ISSUANCE DATE:** 07/12/2017

LEGAL OWNER OR OPERATOR: DIAMOND PET FOOD PROCESSORS OF RIPON
MAILING ADDRESS: 942 S STOCKTON AVE
RIPON, CA 95366

LOCATION: 942 S STOCKTON AVE
RIPON, CA 95366

EQUIPMENT DESCRIPTION:
MODIFICATION OF PET FOOD PROCESSING LINE #3: TO INCREASE DAILY AND ANNUAL ODOR COUNTERACTANT USAGE

CONDITIONS

1. Authority to Construct (ATC) N-8234-6-7 shall be implemented prior to, or concurrently with the implementation of this permit. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter, at the exhaust of each dust collector system (baghouse, cartridge dust collector, cyclone etc.), shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. All exhaust stacks under this permit 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]
5. 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. Material Dispensing, Kibble Manufacturing, and Conveying Systems: The material from the extruder surge bin is dispensed into an extruder bin from where the material is transferred into an EXTRU-TECH 24X144 steam-conditioner system. The material is extruded to form kibbles. The kibbles are pneumatically conveyed using HEPA filtered air into a dryer receiving chamber using HORIZON SYSTEMS HT-68 high volume cyclone with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 7.2 kW, 6 plasma cylinders, cold plasma injection system to abate odors in the air stream from the wet cyclone (Horizon HT-68) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-8234-6-8 Jul 12 2017 8:15AM – KAHLONJ Joint Inspection NOT Required

7. Dryer System: The system consists of an EXTRU-TECH 1053-2P-AF11, 10 MMBtu/hr (total) direct-fired natural gas fired dryer with five drying sections, each section is equipped with an ECLIPSE WINNOX WX0200 burner with a maximum heat input rate of 2.0 MMBtu/hr. The dryer exhaust is vented to a MAC HE60 high efficiency cyclone. The owner or operator shall install, maintain, and operate Uniqair's, 18 kW, 15 plasma cylinders, cold plasma injection system to abate odors in the air stream from the dryer cyclone (MAC HE60) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

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11. Coating and Conveying System: The system consists of a hopper where material from a weight belt is sprayed with chicken fat and canola oil (or other similar ingredients) and a coating reel where dry dog/cat digest and probiotics (or other similar ingredients) are sprinkled to be absorbed into the kibbles. The kibbles are then conveyed pneumatically to a vertical cooler system using a filter receiver system with a static sock filter. [District Rule 2201]

12. Vertical Cooler and Conveying System: A vertical cooler vented to a MAC HE52 high efficiency cyclone. The dried material falls on a vibratory pan on sliding rails. The material (accepts) from the vibratory pan drops into a hopper from where the dried kibbles are pneumatically conveyed to 14 finished product bins. Each bin shall be vented to a HORIZON SYSTEMS MODEL 21VFTC6 cartridge dust collector system. The fines (rejects) from MAC HE52 cyclone discharge and vibratory pan are conveyed to the totes in the basement. Each tote shall have a tight-fitting lid with a static sock filter. The owner or operator shall install, maintain, and operate Uniqair's, 3.6 kW, 3 plasma cylinders, cold plasma injection system to abate odors in the air stream from the vertical cooler cyclone (MAC HE52) prior to its discharge into the atmosphere. [District Rules 2201 and 4102]

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14. Each reactor of the plasma injector system shall be installed, operated, and maintained per the manufacturer's (vendor) recommendations. A copy of manufacturer's recommendations shall be kept on site at all times. [District Rule 2201]

15. OdoLoc-L100 shall be the only odor counteractant used. [District Rule 2201]

16. VOC emissions from odor counteractant use for each pet food manufacturing line shall not exceed any of the following limits: 22.5 lb/day and 5,475 lb/year. These limits equate to the use of 22.5 lb/day and 5,475 lb/year of OdoLoc-L100. [District Rule 2201]

17. Combined VOC emissions from odor counteractant use for all pet food manufacturing lines (N-8234-4, N-8234-5 and N-8234-6) shall not exceed any of the following limits: 22.5 lb/day and 5,475 lb/year. These limits equate to the use of 22.5 lb/day and 5,475 lb/year of OdoLoc-L100. [District Rule 2201]

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26. The dryer shall only be fired on PUC-quality natural gas. [District Rule 2201]
27. Emissions from the dryer shall not exceed any of the following limits: 2.1 ppmvd NOx @ 19% O2 (0.024 lb-NOx/MMBtu), 16.5 ppmvd CO @ 19% O2 (0.112 lb-CO/MMBtu) and 0.00285 lb-SOx/MMBtu. [District Rules 2201 and 4309]
28. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
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39. The District may, at its discretion, require VOC source testing and odor panel testing at any time should conditions at the facility or the surrounding area warrant such testing. [District Rules 2201 and 4201]
40. The amount of ground meat injected into the steam-conditioner, finished product produced, and all other applicable parameters (exhaust flow rate, temperature, pressure, etc.), shall be recorded during VOC source testing and odor panel testing. [District Rules 2201 and 4102]

CONDITIONS CONTINUE ON NEXT PAGE

41. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

42. The permittee shall monitor and record the stack concentration of NOx and O2 downstream of each plasma injection system using a portable emission monitor that meets District specifications, within 30 days of the date the respective plasma injection system becomes fully operational. Alternatively, the permittee may elect to conduct a source test to measure the stack concentration of NOx and O2 downstream of each plasma injection system using CARB Method 100 or EPA Method 7E, or another agreed upon source test method, within 60 days of the date the respective plasma injection system becomes fully operational. The results shall be converted into hourly NOx emissions (lb/hour) using exhaust flow rate (dscfm) from the latest source test report. For the purpose of this condition, fully operational is defined as the physical state when all variable frequency drives and plasma reaction cylinders on a respective plasma injection unit are operating normally, demonstrated by consistent operation for at least a two week period. The permittee shall keep record of the date on which each plasma injection system becomes fully operational, following the issuance date on this permit. [District Rule 2201]

43. Total NOx emissions (lb/hour) shall include NOx emissions from the following release points by taking portable analyzer measurements according to the manufacturer recommended procedures, or by conducting a District-approved source test, downstream of the cold plasma injection system serving: (1) Hot kibble conveying cyclone (HT-68), (2) dryer cyclone (MAC HE60), (3) dryer cooler cyclone (MAC), and (4) vertical cooler cyclone (MAC HE-52). [District Rule 2201]

44. The permittee shall maintain records of: (1) date and time of NOx and O2 measurements, (2) identification of the stack (e.g., hot kibble conveying cyclone (HT-68), dryer cyclone (MAC HE60), etc.) (3) O2 concentration in percent and the measured NOx concentrations, (4) exhaust flow rate (dscfm) in the latest NOx and CO source testing report, (5) NOx emissions (lb/hour), (6) total NOx emissions (lb/hour) from the operations covered under this permit unit, (7) make and model of exhaust gas analyzer, and (8) exhaust gas analyzer calibration records. [District Rule 2201]

45. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4309]

46. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 of the dryer (at the exhaust stack of the MAC HE60 cyclone, upstream of the plasma injection system), at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]

47. If either the dryer NOx or CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309]

48. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 19% O2 (or no correction if measured above 19% O2), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4309]

CONDITIONS CONTINUE ON NEXT PAGE

49. The owner or operator shall continuously monitor and record the following parameters for each cold plasma injection system: (1) date, (2) pressure drop across pre-filter (DP3), (3) pressure drop across high efficiency filter (DP2), (4) pressure drop across cold plasma reactor (DP1), (5) plasma air velocity (AV1) after the cold plasma reactor, and (6) variable frequency drive (VFD) signal (ON/OFF). The set point for each parameter shall be as follows: DP3 < 400 Pa, DP2 < 400 Pa, DP1 <4,000 Pa, AV1 > 2 m/sec, and VFD signal in ON status. These parameters shall be recorded at least once every 15-minutes. The recorded parameters (except for VFD signal) shall be averaged over 60-minute blocks and compared with the established acceptable set points. Upon detecting any excursion, the owner or operator shall investigate the excursion and take corrective action to minimize odorous emissions and prevent recurrence of the excursion as expeditiously as practical, but no longer than 1 hour of operation after detection. If the monitoring equipment continues to show non-conformity with the established parameter(s) after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a thorough inspection, and repair of the cold plasma injection system within 24 hours of the first exceedance. In lieu of conducting a thorough inspection and repair of the cold plasma injection system, the owner or operator may stipulate a violation that is subject to enforcement action has occurred. The owner or operator must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the excursions are the result of a qualifying breakdown condition pursuant to Rule 1100, the owner or operator may fully comply with Rule 1100 in lieu of performing the notification required by this condition. [District Rule 4102]

50. The owner or operator shall maintain records of the date, the ground meat injection rate, excluding moisture, into the steam conditioner (tons/day), amount of finished product produced by this line (tons/day), and the combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day). The combined amount of finished product produced by all pet food manufacturing lines (N-8234-4, '-5 and '-6, tons/day) may be used to demonstrate compliance with the amount of finished product produced by this line (tons/day). [District Rule 2201]

51. The owner or operator shall maintain all records of maintenance for cold plasma injector systems including any cold plasma reactor replacements. [District Rule 4102]

52. The owner or operator shall keep records of the following items for odorant injection system: (1) date, (2) odor counteractant used in pounds per day for this line, (3) total odor counteractant use in pounds per day for all pet food lines (N-8234-4, '-5 and '-6). If the odor counteractant injection rate is constant, the owner or operator may use 7-day weekly records to calculate the daily odor counteractant use by dividing the amount of the odor counteractant used in a given week (pounds per week) by the number of days of operation of odorant injection system (days per week). Any exceedance of daily permitted use of the odor counteractant calculated from weekly records would constitute a violation for each of the seven days. If the odor counteractant injection rate is not constant, the owner or operator shall keep daily records of the odor counteractant use. [District Rule 2201]

53. The owner or operator shall keep records of daily and annual VOC emissions due to odor counteractant use. [District Rule 2201]

54. The owner or operator shall maintain records of the latest version of the Safety Data Sheet (SDS) and purchase receipts containing date of purchase, name of the supplier, name and amount of the odor counteractant purchased. [District Rule 2201]

55. All records shall be maintained and retained on-site for minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4309]

Appendix D
HRA Summary

San Joaquin Valley Air Pollution Control District
Revised Risk Management Review and Ambient Air Quality Analysis

To:	Jag Kahlon – Permit Services
From:	Will Worthley – Technical Services
Date:	October 27, 2020
Facility Name:	DIAMOND PET FOOD PROCESSORS OF RIPON
Location:	942 S STOCKTON AVE, RIPON
Application #(s):	N-8234-4-12, -5-12, -6-12
Project #:	N-1191493

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
4-12	0.01	0.00	0.00	4.37E-09	No	Yes
5-12	0.01	0.00	0.00	4.40E-09	No	Yes
6-12	0.01	0.00	0.00	4.47E-09	No	Yes
Project Totals	0.03	0.00	0.00	1.32E-08		
Facility Totals	>1	0.17	0.00	7.06E-08		

1.2 AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass		Pass		
NO_x	Pass				Pass
SO_x	Pass	Pass		Pass	Pass
PM10				Pass[3]	Pass[3]
PM2.5				Pass[4]	Pass[4]

Notes:
1. Results were taken from the attached AAQA Report.
2. The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted below.
3. Modeled PM10 concentrations were below the District SIL for non-fugitive sources of 5 $\mu g/m^3$ for the 24-hour average concentration and 1 $\mu g/m^3$ for the annual concentration.
4. Modeled PM2.5 concentrations were below the District SIL for non-fugitive sources of 1.2 $\mu g/m^3$ for the 24-hour average concentration and 0.2 $\mu g/m^3$ for the annual concentration.

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

Unit # 4-12, 5-12, & 6-12

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.

2. Project Description

Technical Services received a revised request on October 26, 2020 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -4-12: MODIFICATION OF PET FOOD PROCESSING LINE #1: TO RE-ESTABLISH NOX AND CO EMISSION LIMITS. THE COMBINED HOURLY OR ANNUAL NOX EMISSIONS COULD RELEASE FROM ONE RTO OR MULTIPLE RTOS.
- Unit -5-12: MODIFICATION OF PET FOOD PROCESSING LINE #2: TO RE-ESTABLISH NOX AND CO EMISSION LIMITS. THE COMBINED HOURLY OR ANNUAL NOX EMISSIONS COULD RELEASE FROM ONE RTO OR MULTIPLE RTOS.
- Unit -6-12: MODIFICATION OF PET FOOD PROCESSING LINE #3: TO RE-ESTABLISH NOX AND CO EMISSION LIMITS. THE COMBINED HOURLY OR ANNUAL NOX EMISSIONS COULD RELEASE FROM ONE RTO OR MULTIPLE RTOS.

3. RMR Report

3.1 Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than1.0. If a preliminary analysis demonstrates that either the unit(s) or the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices(Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District's emission factors for Natural Gas Fired external combustion.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 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 2013-2017 from Modesto (urban dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Source Process Rates					
Unit ID	**Process ID**	**Process Material**	**Process Units**	**Hourly Process Rate**	**Annual Process Rate**
4	1	NG Usage	MMscf	0.0077	67.0824
5	1	NG Usage	MMscf	0.0077	67.0824
6	1	NG Usage	MMscf	0.0077	67.0824

Point Source Parameters						
Unit ID	**Unit Description**	**Release Height (m)**	**Temp. (°K)**	**Exit Velocity (m/sec)**	**Stack Diameter (m)**	**Vertical/ Horizontal/ Capped**
4	RTO	9.14	376	16.10	1.52	Vertical
5	RTO	9.14	376	16.10	1.52	Vertical
6	RTO	9.14	376	16.10	1.52	Vertical

4. AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO_2 standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

The modeling analyses predicts the maximum air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and source parameters including emissions. These inputs are described in the sections that follow.

Ambient air concentrations of criteria pollutants are recorded at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following stations were used for this evaluation:

Monitoring Stations				
Pollutant	**Station Name**	**County**	**City**	**Measurement Year**
CO	Modesto-14th Street	Stanislaus	Modesto	2018
NOx	TRACY AIRPORT	San Joaquin	Tracy	2018
PM10	Manteca	San Joaquin	Manteca	2018
PM2.5	Manteca	San Joaquin	Manteca	2018
SOx	Fresno - Garland	Fresno	Fresno	2018

Technical Services performed modeling for directly emitted criteria pollutants with the emission rates below:

Emission Rates (lbs/hour)						
Unit ID	**Process**	**NOx**	**SOx**	**CO**	**PM10**	**PM2.5**
4	1	7.623[1]	0.022	6.776	0.059	0.059
5	1	7.623[1]	0.022	6.776	0.059	0.059
6	1	7.623[1]	0.022	6.776	0.059	0.059

1. Total NOx emissions could be released through any single RTO stack.

Emission Rates (lbs/year)						
Unit ID	**Process**	**NOx**	**SOx**	**CO**	**PM10**	**PM2.5**
4	1	27333[1]	191	59033	510	510
5	1	27333[1]	191	59033	510	510
6	1	27333[1]	191	59033	510	510

1. Total NOx emissions could be released through any single RTO stack.

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state of federal air quality standard. The parameters outlined below and meteorological data for 2013-2017 from Modesto (urban dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Point Source Parameters						
Unit ID	**Unit Description**	**Release Height (m)**	**Temp. (°K)**	**Exit Velocity (m/sec)**	**Stack Diameter (m)**	**Vertical/ Horizontal/ Capped**
4	RTO	9.14	376	16.10	1.52	Vertical
5	RTO	9.14	376	16.10	1.52	Vertical
6	RTO	9.14	376	16.10	1.52	Vertical

5. Conclusion

5.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this 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.

5.2 AAQA

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

6. Attachments

A. Modeling 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 results

Appendix E
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.

N-8234-4-8 or '-5-8 or '-6-8:
The quarterly pre-project emissions (lb) are summarized in the following table:
$PE1_{quarterly}$ = $PE1_{annual}$ ÷ 4 quarters/year

PE1 (quarterly, pounds)					
Permit #	NOx	SOx	PM_{10}	CO	VOC
N-8234-4-8	1,158.5	62.5	4,356.00	2,452.75	4,714.00
N-8234-5-8	1,158.5	62.5		2,452.75	
N-8234-6-8	1,158.5	62.5		2,452.75	

N-8234-4-12 or '-5-12 or '-6-12:
The quarterly post-project emissions (lb) are summarized in the following table:

NOx, SOx, CO:
$PE2_{quarterly}$ = ($PE2_{annual}$ ÷ 4 quarters/year) $_{Dryer\ and\ Process}$ + ($PE2_{annual}$ ÷ 4 quarters/year ÷ 3 RTOs) $_{RTO}$

PM10 & VOC:
$PE2_{quarterly}$ = ($PE2_{annual}$ ÷ 4 quarters/year) $_{Dryer\ and\ Process}$ + ($PE2_{annual}$ ÷ 4 quarters/year) $_{RTO}$

PE2 (quarterly, pounds)					
Permit #	NOx	SOx	PM_{10}	CO	VOC
N-8234-4-12	2,803.25 (525.5+2,277.75)	99.75 (62.5+37.25)	2,476 (2,178+298)	13,952.75 (2,452.75+11,500)	571.5 (356+215.5)
N-8234-5-12	2,803.25 (525.5+2,277.75)	99.75 (62.5+37.25)		13,952.75 (2,452.75+11,500)	
N-8234-6-12	2,803.25 (525.5+2,277.75)	99.75 (62.5+37.25)		13,952.75 (2,452.75+11,500)	

N-8234-4-12 or '-5-12 or '-6-12:

QNEC = PE2 - PE1

The quarterly net emission changes (lb) are summarized in the following table:

QNEC (quarterly, pounds)					
Permit #	NOx	SOx	PM_{10}	CO	VOC
N-8234-4-12	1,644.75	37.25	-1,880	11,500	-4,142.5
N-8234-5-12	1,644.75	37.25		11,500	
N-8234-6-12	1,644.75	37.25		11,500	

APPENDIX F
ERC Withdrawal Calculations

ERC Withdrawal Calculations

NO_x	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
ERC N-1525-2	7,000	7,000	7,000	7,000
Offsets Required (Includes distance offset ratio)	5,008	5,008	5,008	5,009
Amount Remaining	1,992	1,992	1,992	1,991
Credits reissued under ERC N-YYYY-2	1,992	1,992	1,992	1,991

Appendix G
Cost-effectiveness Analysis

Cost Effectiveness Analysis for Scrubber

Cost Item	Reasons & Remarks	Estimated Cost
Direct Costs		
Purchased equipment costs		
Equipment Purchase (Scrubber), EC	Ref: Estimate by Durr USA	$4,500,000
Instrumentation (included)		
Sales taxes	3.1825% EC	$143,213
*Freight	0.05 EC	$225,000
Purchased equipment costs, PEC	sum of above items	$4,868,213
Direct installation costs	Ref: Section 5 Table 1.3 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001	Direct insallation costs are provided by DPF
Foundations & supports	0.12 PEC	$450,000
Handling & erection	0.40 PEC	
Electrical	0.01 PEC	
Piping	0.30 PEC	
Insulation for duct work	0.01 PEC	
Painting	0.01 PEC	
Direct installation costs	**sum of above items**	**$450,000**
Site preparation	not included	
Buildings	not included	
Total Direct Costs, DC		$5,318,213
Indirect Costs (installation)	Ref: Section 5 Table 1.3 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001	No cost estimate by DPF, assumed indirect installation cost is
Engineering	0.10 PEC	
Construction & field expenses	0.10 PEC	
Contractor fees	0.10 PEC	
Performance test	0.01 PEC	
Contingencies	0.03 PEC	
Total Indirect Costs, IC	**sum of above items**	**$0**
Total Capital Investment	**DC + IC**	**$5,318,213**
Direct Annual Costs	Ref: Section 5 Table 1.4 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001	
Operating labor		
Operator	0.5 hr/shift, $32.00/hr, 3 shifts/day, 363 days/yr	$17,520
Supervisor	15% of operator	$2,628
Operating materials		
Wastewater disposal (scrubber water)	Not estimated	--
Maintenance		
Labor	0.5 hr/shift, $32.00/hr, 3 shifts/day, 363 days/yr	$17,424
Materials	100% of maintenance labor	$17,424
Utilities		
Electricity (Scrubber)	Not estimated	--
Wastewater disposal	Not estimated	--
Total Direct Annual Costs, DAC	**sum of above items**	**$54,996**
Indirect Annual Costs	Ref: Section 5 Table 1.4 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001	
Overhead	60% of sum of operating, supervisor, & maintenance lable & maintenance materials	$32,997.60
Administrative Charges	2%TCI	$106,364
Property Taxes	1%TCI	$53,182
Insurance	1%TCI	$53,182
Total Indirect Annual Costs, IAC	**sum of above items**	**$245,726**
Total Annual Costs, TAC	**DAC + IAC**	**$300,722**
Cost of Emission Reductions ($/ton)		
Annualized Total Capital Investment, ATCI	0.163 TCI, amortization factor determined using 10 year, 10% interest	$865,515
Total annual costs	ATCI + TAC	$1,166,237
Emission Reductions (tons/yr)	Uncontrolled emissions = 13.7 tons/yr (total for all 3 RTOs) - 4.7 tons/yr (all 3 RTO NOx combustion emissions) - 3.2 tons/yr (All 3 dryers combustion emissions) =5.8 tons/yr, 90% control	5.2
Cost of Emission Reductions ($/ton)		**$223,417**

*Ref. Section 5 Table 1.3 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001

Cost Effectiveness Analysis for Baghouse

Cost Item	Reasons & Remarks	Estimated Cost
Direct Costs		
Purchased equipment costs		
Equipment Purchase (Scrubber), EC	Ref: Estimate by Durr USA	$2,850,000
Instrumentation (included)		
Sales taxes	3.1825% EC	$90,701
*Freight	0.05 EC	$142,500
Purchased equipment costs, PEC	sum of above items	$3,083,201
Direct installation costs	Ref: Section 5 Table 1.9 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001	Direct insallation costs are provided by DPF
Foundations & supports	0.04 PEC	$285,000
Handling & erection	0.50 PEC	
Electrical	0.08 PEC	
Piping	0.01 PEC	
Insulation for duct work	0.07 PEC	
Painting	0.04 PEC	
Direct installation costs	**sum of above items**	**$285,000**
Site preparation	not included	
Buildings	not included	
Total Direct Costs, DC		$3,368,201
Indirect Costs (installation)	Ref: Section 6 Table 1.9 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001	No cost estimate by DPF, assumed indirect installation cost is included in $250,000
Engineering	0.10 PEC	
Construction & field expenses	0.20 PEC	
Contractor fees	0.10 PEC	
Start-up	0.01 PEC	
Performance test	0.01 PEC	
Contingencies	0.03 PEC	
Total Indirect Costs, IC	**sum of above items**	**$0**
Total Capital Investment	**DC + IC**	**$3,368,201**
Direct Annual Costs	Ref: Section 6 Table 1.11 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001	
Operating labor		
Operator	0.5 hr/shift, $32.00/hr, 3 shifts/day, 363 days/yr	$17,520
Supervisor	15% of operator	$2,628
Operating materials		
Waste disposal	Not estimated	--
Maintenance		
Labor	0.5 hr/shift, $32.00/hr, 3 shifts/day, 363 days/yr	$17,424
Materials	100% of maintenance labor	$17,424
Utilities		
Electricity	Not estimated	--
Compressed air	Not estimated	--
Waste disposal	Not estimated	--
Total Direct Annual Costs, DAC	**sum of above items**	**$54,996**
Indirect Annual Costs	Ref: Section 6 Table 1.11 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001	
Overhead	60% of sum of operating, supervisor, & maintenance lable & maintenance materials	$32,997.60
Administrative Charges	2%TCI	$67,364
Property Taxes	1%TCI	$33,682
Insurance	1%TCI	$33,682
Total Indirect Annual Costs, IAC	**sum of above items**	**$167,726**
Total Annual Costs, TAC	**DAC + IAC**	**$222,722**
Cost of Emission Reductions ($/ton)		
Annualized Total Capital Investment, ATCI	0.163 TCI, amortization factor determined using 10 year, 10% interest	$548,159
Total annual costs	ATCI + TAC	$770,881
Emission Reductions (tons/yr)	Uncontrolled emissions = 13.7 tons/yr (total for all 3 RTOs) - 4.7 tons/yr (all 3 RTO NOx combustion emissions) - 3.2 tons/yr (All 3 dryers combustion emissions) = 5.8 tons/yr, 90% control	5.2
Cost of Emission Reductions ($/ton)		**$147,678**

*Ref. Section 6 Table 1.9 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001

Cost Effectiveness Analysis for Selective Catalytic Reduction System

Cost Item	Reasons & Remarks	Estimated Cost
Direct Costs		
Purchased equipment costs		
Equipment Purchase (SCR), EC	Ref: Estimate by Durr USA	$5,400,000
Instrumentation (included)		
Sales taxes	3.1825% EC	$171,855
*Freight	0.05 EC	$270,000
Purchased equipment costs, PEC	sum of above items	$5,841,855
Direct installation costs	Direct insallation costs are provided by DPF	
Foundations & supports	--	$540,000
Handling & erection	--	
Electrical	--	
Piping	--	
Insulation for duct work	--	
Painting	--	
Direct installation costs	**sum of above items**	**$540,000**
Site preparation	not included	
Buildings	not included	
Total Direct Costs, DC		$6,381,855
Indirect Costs (installation)	No cost estimate by DPF, assumed indirect installation cost is included in $540,000	
Engineering	--	--
Construction & field expenses	--	--
Contractor fees	--	--
Performance test	--	--
Contingencies	--	--
Total Indirect Costs, IC	**sum of above items**	**$0**
Total Capital Investment	**DC + IC**	**$6,381,855**
Direct Annual Costs	Ref: Section 5 Table 1.4 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001, assumed to be same for SCR system	
Operating labor		
Operator	0.5 hr/shift, $32.00/hr, 3 shifts/day, 363 days/yr	$17,520
Supervisor	15% of operator	$2,628
Operating materials		
Reagent costs	Not estimated	--
Maintenance		
Labor	0.5 hr/shift, $32.00/hr, 3 shifts/day, 363 days/yr	$17,424
Materials	100% of maintenance labor	$17,424
Utilities		
Electricity	Not estimated	--
Total Direct Annual Costs, DAC	**sum of above items**	**$54,996**
Indirect Annual Costs	Ref: Section 5 Table 1.4 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001, assumed to be same for SCR system	
Overhead	60% of sum of operating, supervisor, & maintenance lable & maintenance materials	$32,997.60
Administrative Charges	2%TCI	$127,637
Property Taxes	1%TCI	$63,819
Insurance	1%TCI	$63,819
Total Indirect Annual Costs, IAC	**sum of above items**	**$288,272**
Total Annual Costs, TAC	**DAC + IAC**	**$343,268**
Cost of Emission Reductions ($/ton)		
Annualized Total Capital Investment, ATCI	0.163 TCI, amortization factor determined using 10 year, 10% interest	$1,038,618
Total annual costs	ATCI + TAC	$1,381,886
Emission Reductions (tons/yr)	Uncontrolled emissions = 13.7 tons/yr (total for all 3 RTOs), 82.9% contol efficiency provided by Durr	11.4
Cost of Emission Reductions ($/ton)		**$121,674**

*Ref. Section 5 Table 1.3 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001

Cost Effectiveness Analysis for eNOx

Cost Item	Reasons & Remarks	Estimated Cost
Direct Costs		
Purchased equipment costs		
Equipment Purchase (SCR), EC	Ref: Estimate by Messer (Linde)	$5,000,000
Instrumentation (included)		
Sales taxes	3.1825% EC	$159,125
*Freight	0.05 EC	$250,000
Purchased equipment costs, PEC	sum of above items	$5,409,125
Direct installation costs	Direct insallation costs are provided by DPF	
Foundations & supports	--	$500,000
Handling & erection	--	
Electrical	--	
Piping	--	
Insulation for duct work	--	
Painting	--	
Direct installation costs	**sum of above items**	**$500,000**
Site preparation	not included	
Buildings	not included	
Total Direct Costs, DC		$5,909,125
Indirect Costs (installation)	No cost estimate by DPF, assumed indirect installation cost is included in $540,000	
Engineering	--	--
Construction & field expenses	--	--
Contractor fees	--	--
Performance test	--	--
Contingencies	--	--
Total Indirect Costs, IC	**sum of above items**	**$0**
Total Capital Investment	**DC + IC**	**$5,909,125**
Direct Annual Costs	Ref: Section 5 Table 1.4 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001, assumed to be same for SCR system	
Operating labor		
Operator	0.5 hr/shift, $32.00/hr, 3 shifts/day, 363 days/yr	$17,520
Supervisor	15% of operator	$2,628
Operating materials		
Reagent costs	Not estimated	--
Maintenance		
Labor	0.5 hr/shift, $32.00/hr, 3 shifts/day, 363 days/yr	$17,424
Materials	100% of maintenance labor	$17,424
Utilities		
Electricity	Not estimated	--
Total Direct Annual Costs, DAC	**sum of above items**	**$54,996**
Indirect Annual Costs	Ref: Section 5 Table 1.4 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001, assumed to be same for SCR system	
Overhead	60% of sum of operating, supervisor, & maintenance lable & maintenance materials	$32,997.60
Administrative Charges	2%TCI	$118,183
Property Taxes	1%TCI	$59,091
Insurance	1%TCI	$59,091
Total Indirect Annual Costs, IAC	**sum of above items**	**$269,363**
Total Annual Costs, TAC	**DAC + IAC**	**$324,359**
Cost of Emission Reductions ($/ton)		
Annualized Total Capital Investment, ATCI	0.163 TCI, amortization factor determined using 10 year, 10% interest	$961,683
Total annual costs	ATCI + TAC	$1,286,042
Emission Reductions (tons/yr)	Uncontrolled emissions = 13.7 tons/yr (total for all 3 RTOs), 54% contol efficiency provided by Messer	7.4
Cost of Emission Reductions ($/ton)		**$173,836**

*Ref. Section 5 Table 1.3 of EPA Air Pollution Control Cost Manual (Sixth Edition) EPA/452/B-02-001