

MAR 14 2017

Edwin Steven
Valley Milk LLC
400 North Washington Road
Turlock, CA 95380

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-9149
Project Number: N-1163349

Dear Mr. Steven:

Enclosed for your review and comment is the District's analysis of Valley Milk LLC's application for an Authority to Construct for a new milk processing plant, at 400 N. Washington Road in Turlock, CA.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Kai Chan of Permit Services at (209) 557-6451.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:kc

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
Modesto, CA 95356-8718
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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
New Milk Powder Production Plant

Facility Name:	Valley Milk, LLC	Date:	Feb. 27, 2017
Mailing Address:	400 North Washington Road Turlock, CA 95380	Engineer:	Kai Chan
Contact Person:	Edwin Steven (Plant Manager)	Lead Engineer:	Nick Peirce
Telephone:	(575) 693-9238		Ray Kapahi (Consultant)
E-Mail:	estevens@valleymilkca.com		(916) 687-8352
Application #(s):	N-9149-5-0, '-6-0, '-7-0, and '-8-0		Ray.Kapahi@gmail.com
Project #:	N-1163349		
Deemed Complete:	January 18, 2017		

I. Proposal

N-9149-5-0 & '-6-0:

Valley Milk, LLC has requested Authority to Construct (ATC) permits for two identical 32.863 MMBtu/hr natural gas-fired boilers to replace the originally proposed 33.6 MMBtu/hr boilers under ATC permits N-9149-1-0 and '-2-0 under project #N-1151582. Therefore, the following permit condition will be included in each of these ATC permits to require the cancellation of ATC permits N-9149-1-0 and '-2-0 prior to the implementation of ATC permits N-9149-5-0 and '-6-0:

- *Authority to Construct permits N-9149-1-0 and N-9149-2-0 shall be cancelled prior to the implementation of this ATC permit. [District Rule 2201]*

N-9149-7-0:

Valley Milk, LLC has also requested an ATC permit for a milk drying operation consisting of a Varimax natural gas indirect-fired process heater equipped with a 19.8 MMBtu/hr ultra-low NOx burner and an integrated static fluid bed drying chamber, a vibro-fluidizer, milk powder mill, milk powder sifter, one 500 ft³ start-up powder silo, two 3,900 ft³ (each) powder storage silos all served by a 65,600 cfm baghouse. This ATC permit is for the replacement of the equipment originally proposed under ATC permit N-9149-3-0 processed under project #N-1151582. Therefore, the following permit condition will be included in this ATC permit to require the cancellation of ATC permit N-9149-3-0 prior to the implementation of this ATC permit N-9149-7-0:

- *Authority to Construct permit N-9149-3-0 shall be cancelled prior to the implementation of this ATC permit. [District Rule 2201]*

N-9149-8-0:

Valley Milk, LLC has also requested an ATC permit for a milk powder packaging operation served by a 4,600 cfm Dynequip baghouse to replace the originally proposed Donaldson Torit baghouse under ATC permit N-9149-4-0 processed under project #N-1151582. Therefore, the following permit condition will be included in this TAC permit to require the cancellation of ATC permit N-9149-4-0 prior to the implementation of this ATC permit N-9149-8-0:

- *Authority to Construct permit N-9149-4-0 shall be cancelled prior to the implementation of this ATC permit. [District Rule 2201]*

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National 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 – Emission Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4304	Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase 2 (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase 3 (10/16/08)
Rule 4309	Dryers, Dehydrators, and Ovens (12/15/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4351	Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03)
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 400 North California Road in Turlock, CA. This facility and its associated equipment are 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

Valley Milk, LLC is raw milk processing facility to be utilized in the production of skim and whole milk powders, cream, and other milk products.

The facility will utilize two side-by-side drive-through truck bays. Bay one will be dedicated to receiving of raw milk from tanker trucks and bay two will be used for cream loadout during skim milk production and cleaning of incoming and loadout milk tanker trucks. The received raw milk be unloaded from the tankers and stored in any of the three vertical storage silos.

N-9149-5-0 & '6-0:

The two proposed identical 32.863 MMBtu/hr natural gas-fired boilers will be utilized to provide steam and hot water for various proposes at the facility in the production of milk powders, cream, and other milk products.

N-9149-7-0:

Pasteurized and concentrated milk is pumped into two milk dryer feed tanks. From the dryer feed tanks the milk is pumped into the milk dryer where it is atomized into a fine mist and the water is rapidly evaporated by large volumes of hot air from the indirect-fired process heater. The hot air exits the milk dryer and is vented through the proposed baghouse as the milk powder falls to the bottom of the dryer into the fluid bed drying chamber. From the drying chamber the milk powder is further processed through the vibro-fluidizer where hot and cold air are used to dry, condition, and cool the milk powder to the designed temperature and moisture content. The exhaust air in the vibro-fluidizer is vented through the proposed baghouse and the milk powder is collected and dropped into a mill for particle size reduction and then into a sifter for particle sizing and separation. The properly size milk powder is conveyed into storage tanks awaiting packaging. The mill, sifter, and storage tanks are enclosed and also vented through the proposed baghouse.

N-9149-8-0:

The finished milk powder from the storage tanks are vacuum conveyed into the bulk packaging machines where it dropped into 25 Kg bags, sealed, coded, robotically palletized, and stored for transportation to their customers. The vacuum conveying system and the packaging machines are served by the proposed baghouse.

Operating Schedule and Production Rates:

The proposed milk powder production plant may operate up to 24 hours/day and 365 days/year. The proposed boiler heat input rates, milk powder production rates, proposed facility-wide annual PM₁₀ emission rate is stated in the table below:

ATC Permit Unit	Description	Heat Input Rates or Production Rates
N-9149-5-0	Maximum Daily Heat Input Rate	788.7 MMBtu/day
	Maximum Annual Heat Input Rate	287,879.9 MMBtu/year
N-9149-6-0	Maximum Daily Heat Input Rate	788.7 MMBtu/day
	Maximum Annual Heat Input Rate	287,879.9 MMBtu/year
N-9149-7-0	Maximum Daily Milk Powder Production Rate	125.0 tons/day
	Annual Facility-Wide PM ₁₀ Emission Rate Limit	29,000 lb-PM ₁₀ /year
N-9149-8-0	Maximum Daily Milk Powder Packaging Rate	125.0 tons/day
	Annual Facility-Wide PM ₁₀ Emission Rate Limit	29,000 lb-PM ₁₀ /year

V. Equipment Listing

Equipment Description:

N-9149-5-0: 32.863 MMBTU/HR CLEAVER-BROOKS MODEL CBEX ELITE 700-900-150ST NATURAL GAS-FIRED BOILER WITH A CLEAVER-BROOKS MODEL ULN5 ULTRA-LOW NOX BURNER AND INDUCED FLUE GAS RECIRCULATION.

N-9149-6-0: 32.863 MMBTU/HR CLEAVER-BROOKS MODEL CBEX ELITE 700-900-150ST NATURAL GAS-FIRED BOILER WITH A CLEAVER-BROOKS MODEL ULN5 ULTRA-LOW NOX BURNER AND INDUCED FLUE GAS RECIRCULATION.

N-9149-7-0: MILK DRYING OPERATION CONSISTING OF A MUNTER VARIMAX NATURAL GAS INDIRECT-FIRED PROCESS HEATER EQUIPPED WITH A 19.8 MMBTU/HR ALZETA CSB ULTRA-LOW NOX BURNER AND WITH AN INTEGRATED STATIC FLUID BED DRYING CHAMBER, A VIBRO-FLUIDIZER, A MILK POWDER MILL, A MILK POWDER SIFTER, ONE 500 CUBIC FOOT START-UP MILK POWDER STORAGE SILO, TWO 3,900 CUBIC FOOT (EACH) MILK POWDER STORAGE SILOS ALL SERVED BY A 65,600 SCFM GEA PROCESS ENGINEERING, INC MODEL HUDSON STYLE BAGHOUSE.

N-9149-8-0: DRIED MILK PACKAGING OPERATION SERVED BY A 4,600 CFM DYNEQUIP MODEL DD-160302 BAGHOUSE.

VI. Emission Control Technology Evaluation

N-9149-5-0 & -6-0:

These units will be equipped with an ultra-low NO_x burner and induced flue gas recirculation (FGR) capable of achieving NO_x and CO emissions of 5 ppmvd @ 3% O₂ and 50 ppmvd @ 3% O₂, respectively, and are fired on PUC-quality natural gas.

Ultra-Low NO_x burners reduce NO_x formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO_x burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_x. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

The proposed boilers are also equipped with an FGR system. The use of FGR can reduce nitrogen oxides (NO_x) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is recirculated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NO_x is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NO_x.

PM₁₀, VOC, and SO_x emissions will be controlled by firing the boiler exclusively on PUC-quality natural gas.

N-9149-7-0:

The indirect-fired process heater will be equipped with an ultra-low NO_x burner and flue gas recirculation (FGR) capable of achieving NO_x and CO emissions of 5 ppmvd @ 3% O₂ and 150 ppmvd @ 3% O₂, respectively, and are fired on PUC-quality natural gas.

Ultra-Low NO_x burners reduce NO_x formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO_x burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_x. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

The proposed process heater is also equipped with an FGR system. The use of FGR can reduce nitrogen oxides (NOx) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is recirculated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NOx is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NOx.

The fluid bed drying chamber, vibro-fluidizer, mill, sifter, and storage silos will be enclosed and vented through the proposed baghouse for particulate matter (PM) control. The proposed baghouse will control PM₁₀ emissions with an expected efficiency of at least 99.0% and is proposed to operate with a maximum emission concentration limit of 0.00675 gr/dscf.

Filtering Velocity Calculation for the GEA Process Engineering, Inc. Baghouse:

Maximum Air Flow: 65,600 cfm
Filter Area: 10,550 ft²

$$\text{Filtering Velocity} = 65,600 \text{ cfm} \div 10,550 \text{ ft}^2 = 6.2 \text{ fpm}$$

The filtering velocity is below the typical values found in the Air Pollution Engineering Manual (Reference from Air Pollution Engineering Manual, Air & Waste Management Association – 1992 Table 5, page 128). Therefore, the proposed baghouse is operating within the recommended parameters.

N-9149-8-0:

The dried milk packaging equipment will be served by the proposed baghouse for particulate matter (PM) control. The proposed baghouse will control PM₁₀ emissions with an expected efficiency of at least 99.0% and is proposed to operate with a maximum emission concentration limit of 0.00675 gr/dscf.

Filtering Velocity Calculation for the Dynequip Baghouse:

Maximum Air Flow: 4,600 cfm
Filter Area: 648 ft²

$$\text{Filtering Velocity} = 4,600 \text{ cfm} \div 648 \text{ ft}^2 = 7.0 \text{ fpm}$$

The filtering velocity is below the typical values found in the Air Pollution Engineering Manual (Reference from Air Pollution Engineering Manual, Air & Waste Management Association – 1992 Table 5, page 128). Therefore, the proposed baghouse is operating within the recommended parameters.

VII. General Calculations

A. Assumptions

N-9149-5-0 & '6-0:

1. NO_x, CO, VOC, PM₁₀, and SO_x will be emitted due to the combustion of PUC natural gas in the proposed new boiler.
2. The boilers will only be fired on PUC-regulated natural gas.
3. Natural gas heating value of 1,000 Btu/scf (District Practice).
4. F-Factor for Natural Gas of 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B).

N-9149-7-0:

1. NO_x, CO, VOC, PM₁₀, and SO_x will be emitted from the combustion of natural gas in the process heater and PM will be emitted from the drying, milling, sifting, conveying, and storage of the produced milk powder.
2. The process heater will be fired on PUC-regulated natural gas.
3. Natural gas heating value of 1,000 Btu/scf (District Practice).
4. F-Factor for Natural Gas of 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B).
5. 100% of the particulate matter emitted from the baghouse will be PM₁₀.
6. The baghouse will control 99% of the PM₁₀ emissions.

N-9149-8-0:

1. Only PM will be emitted from the packaging of the produced milk powder.
2. 100% of the particulate matter emitted from the baghouse will be PM₁₀.
3. The baghouse will control 99% of the PM₁₀ emissions.

B. Emission Factors

N-9149-5-0 & '6-0:

For the proposed new boilers, the emission factor (EF) for the combustion of natural gas for NO_x, CO, and VOC emissions will be based on the applicant's proposed emission rates. The EF for PM₁₀ when burning PUC quality natural gas is based on the emission factor from District FYI-328 (dated 6/12/14). The EF for SO_x, when burning natural gas is based on mass balance with 1.0 gr-S/100 ft³ per District Policy APR 1720. The EF is summarized in the following table:

Emission Factors (EF_{N-9149-5-0 & '6-0/Natural Gas})		
Pollutant	EF_{N-9149-5-0 & '6-0/Natural Gas}	Source
NOx	5.0 ppmvd @ 3% O ₂ (0.0061 lb/MMBtu)	Manufacturer's Proposal
CO	50 ppmvd @ 3% O ₂ (0.0369 lb/MMBtu)	Manufacturer's Proposal
VOC	13 ppmvd @ 3% O ₂ (as CH ₄) (0.0055 lb/MMBtu)	Applicant's Proposal
PM ₁₀	0.003 lb/MMBtu	FYI-328 (6/12/14)
SOx	0.00285 lb/MMBtu	District Policy APR-1720

N-9149-7-0:

For the proposed process heater, the emission factor (EF) for the combustion of natural gas for NOx, CO, and VOC emissions will be based on the applicant's proposed emission rates. The EF for PM₁₀ when burning PUC quality natural gas is based on the emission factor from District FYI-328 (dated 6/12/14). The EF for SOx, when burning natural gas is based on mass balance with 1.0 gr-S/100 ft³ per District Policy APR 1720. The EF is summarized in the following table:

Emission Factor (EF_{N-9149-7-0/Natural Gas})		
Pollutant	EF_{N-9149-7-0/Natural Gas}	Source
NOx	5.0 ppmvd @ 3% O ₂ (0.0061 lb/MMBtu)	Manufacturer's Proposal
CO	150 ppmvd @ 3% O ₂ (0.1108 lb/MMBtu)	Manufacturer's Proposal
VOC	13 ppmvd @ 3% O ₂ (as CH ₄) (0.0055 lb/MMBtu)	Applicant's Proposal
PM ₁₀	0.003 lb/MMBtu	FYI-328 (6/12/14)
SOx	0.00285 lb/MMBtu	District Policy APR-1720

For the proposed baghouse serving the milk powder drying, milling, sifting, conveying, and storage equipment, the applicant is proposing to utilize a PM₁₀ emission concentration limit of 0.00675 gr/dscf and the corresponding baghouse blower exhaust flow rate of 65,600 scfm.

$$EF_{PM10/N-9149-7-0/Baghouse} = 0.00675 \text{ gr/dscf}$$

N-9149-8-0:

For the proposed baghouse serving the milk powder packaging equipment, the applicant is proposing to utilize a PM₁₀ emission concentration limit of 0.00675 gr/dscf and the corresponding baghouse blower exhaust flow rate of 4,600 scfm.

$$EF_{PM10/N-9149-8-0/Baghouse} = 0.00675 \text{ gr/dscf}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

N-9149-5-0, '-6-0, '-7-0, & '-8-0:

Since these are new emission units, the daily and annual pre-project potential to emit (PE1) for the emission units associated with these permit units are equal to zero.

2. Post Project Potential to Emit (PE2)

N-9149-5-0 & '-6-0:

Daily and Annual PE2 from the Combustion of Natural Gas in the Boilers:

Emissions from the combustion of natural gas in the proposed boiler are based on the worst-case of operating 24 hours/day and 8,760 hours/year at a heat input rate of 32.863 MMBtu/hr. Therefore:

$$\text{Daily Heat Input} = 32.863 \text{ MMBtu/hr} \times 24 \text{ hr/day} = 788.71 \text{ MMBtu/day}$$

$$\text{Annual Heat Input} = 32.863 \text{ MMBtu/hr} \times 8,760 \text{ hr/year} = 287,879.88 \text{ MMBtu/year}$$

$$\text{F Factor for Natural Gas: } 8,578 \text{ scf/MMBtu}$$

$$\text{Molar Specific Volume of Gas: } 379.5 \text{ ft}^3/\text{lb-mole}$$

$$\text{Molecular Weight for NOx: } 46 \text{ lb/lb-mole}$$

$$\text{Molecular Weight for CO: } 28 \text{ lb/lb-mole}$$

$$\text{Molecular Weight for VOC: } 16 \text{ lb/lb-mole}$$

$$\begin{aligned} \text{PE2}_{\text{NOx, CO, \& VOC/N-9149-5-0 \& '-6-0}} &= \text{Heat Input (MMBtu/day, MMBtu/yr)} \\ &\times \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ &\times \text{Molecular Weight (lb/lb-mole)} \times 8,578 \text{ scf/MMBtu} \\ &\times 1 \text{ lb-mole}/379.5 \text{ ft}^3 \times [20.95/(20.95 - \text{O}_2\%)] \end{aligned}$$

$$\text{PE2}_{\text{PM}_{10} \& \text{SOx/N-9149-5-0 \& '-6-0}} = \text{Heat Input (MMBtu/day, MMBtu/yr)} \times \text{EF2 lb/MMBtu}$$

ATC Permits N-9149-5-0 & '-6-0 (Boilers)			
Pollutant	Emission Factor (EF_{Natural Gas})	Daily PE2_{N-9149-5-0 & '-6-0} (lb/day)	Annual PE2_{N-9149-5-0 & '-6-0} (lb/year)
NOx	5.0 ppmvd @ 3% O ₂	4.8	1,747
CO	50 ppmvd @ 3% O ₂	29.1	10,632
VOC	13 ppmvd @ 3% O ₂	4.3	1,580
PM ₁₀	0.003 lb/MMBtu	2.4	864
SOx	0.00285 lb/MMBtu	2.2	820

N-9149-7-0:

Emissions due to the combustion of natural gas from the Process Heater:

Emissions from the combustion of natural gas in the proposed process heater is based on the worst-case of operating 24 hours/day and 8,760 hours/year at a heat input rate of 19.8 MMBtu/hr. Therefore:

$$\text{Daily Heat Input} = 19.8 \text{ MMBtu/hr} \times 24 \text{ hr/day} = 475.2 \text{ MMBtu/day}$$

$$\text{Annual Heat Input} = 19.8 \text{ MMBtu/hr} \times 8,760 \text{ hr/year} = 173,448.0 \text{ MMBtu/year}$$

F Factor for Natural Gas: 8,578 scf/MMBtu
Molar Specific Volume of Gas: 379.5 ft³/lb-mole
Molecular Weight for NO_x: 46 lb/lb-mole
Molecular Weight for CO: 28 lb/lb-mole
Molecular Weight for VOC: 16 lb/lb-mole

$$\begin{aligned} \text{PE}_{2\text{NO}_x, \text{CO}, \& \text{VOC/NG}} &= \text{Heat Input (MMBtu/day, MMBtu/yr)} \\ &\times \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ &\times \text{Molecular Weight (lb/lb-mole)} \times 8,578 \text{ scf/MMBtu} \\ &\times 1 \text{ lb-mole}/379.5 \text{ ft}^3 \times [20.95/(20.95 - \text{O}_2\%)] \end{aligned}$$

$$\text{PE}_{2\text{PM}_{10} \& \text{SO}_x/\text{NG}} = \text{Heat Input (MMBtu/day, MMBtu/yr)} \times \text{EF}_2 \text{ lb/MMBtu}$$

ATC Permit N-9149-7-0 (Natural Gas Combustion – Process Heater)			
Pollutant	Emission Factor (EF _{Natural Gas})	Daily PE _{2N-9149-7-0/NG} (lb/day)	Annual PE _{2N-9149-7-0/NG} (lb/year)
NO _x	5.0 ppmvd @ 3% O ₂	2.9	1,052
CO	150 ppmvd @ 3% O ₂	52.7	19,218
VOC	13 ppmvd @ 3% O ₂	2.6	952
PM ₁₀	0.003 lb/MMBtu	1.4	520
SO _x	0.00285 lb/MMBtu	1.4	494

PM₁₀ Emissions from the Baghouse serving the Powder Milk Drying, Milling, Sifting, Conveying, and Storage Operations:

PM₁₀ emissions from these operations will be controlled by the proposed baghouse based on a baghouse emission concentration of 0.00675 gr/dscf and exhaust flow rate of 65,600 scfm operating at 1,440 min/day (24 hr/day). The facility is also proposing to limit the facility-wide PM₁₀ emission to not exceed 29,000 lb/year. The PM₁₀ emissions are calculated as follows:

$$\begin{aligned} \text{PE}_{2\text{PM}_{10}/\text{N-9149-7-0/Baghouse}} &= \text{Operating Time (min/day or min/year)} \\ &\times \text{EF}_{\text{PM}_{10}/\text{N-9149-7-0/Baghouse}} \times 65,600 \text{ scfm} \times 1 \text{ lb}/7,000 \text{ gr} \end{aligned}$$

ATC Permit N-9149-7-0 (Baghouse)			
Pollutant	Emission Factor (EF _{Baghouse})	Daily PE2 _{N-9149-7-0/Baghouse} (lb/day)	Annual PE2 _{N-9149-7-0/Baghouse} (lb/year)
PM ₁₀	0.00675 gr/dscf	91.1	29,000 (SLC)

Total Daily and Annual PE2 for ATC Permit N-9149-7-0:

The total daily and annual emissions are the combined total from the combustion of natural gas in the process heater and emissions from the equipment served by the proposed baghouse. Therefore:

$$\text{Daily PE2}_{\text{Total/N-9149-7-0}} = \text{Daily PE2}_{\text{NG}} + \text{Daily PE2}_{\text{PM10/Baghouse}}$$

$$\text{Annual PE2}_{\text{Total/N-9149-7-0}} = \text{Annual PE2}_{\text{NG}} + \text{Annual PE2}_{\text{PM10/Baghouse}}$$

Total Daily and Annual PE2 for ATC Permit N-9149-7-0						
Pollutant	PE2 _{NG}		PE2 _{Baghouse}		PE2 _{Total/N-9149-7-0}	
	lb/day	lb/year	lb/day	lb/year	lb/day	lb/year
NOx	2.9	1,052	0	0	2.9	1,052
CO	52.7	19,218	0	0	52.7	19,218
VOC	2.6	952	0	0	2.6	952
PM ₁₀	1.4	520	91.1	29,000 (SLC)	92.5	29,000 (SLC)
SOx	1.4	494	0	0	1.4	494

N-9149-8-0:

PM₁₀ Emissions from the Baghouse serving the Powder Milk Packaging Operation:

PM₁₀ emissions from this operation will be controlled by the proposed baghouse based on a baghouse emission concentration of 0.00675 gr/dscf and exhaust flow rate of 4,600 scfm operating at 1,440 min/day (24 hr/day) and 525,600 min/day (8,760 hr/year). The facility is also proposing to limit the facility-wide PM₁₀ emission to not exceed 29,000 lb/year. The PM₁₀ emissions are calculated as follows:

$$\text{PE2}_{\text{PM10/N-9149-8-0/Baghouse}} = \text{Operating Time (min/day or min/year)} \\ \times \text{EF}_{\text{PM10/N-9149-8-0/Baghouse}} \times 4,600 \text{ scfm} \times 1 \text{ lb/7,000 gr}$$

ATC Permit N-9149-8-0			
Pollutant	Emission Factor (EF _{Baghouse})	Daily PE2 _{N-9149-8-0} (lb/day)	Annual PE2 _{N-9149-8-0} (lb/year)
PM ₁₀	0.00675 gr/dscf	6.4	2,331 29,000 (SLC)

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

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

SSPE1 (lb/year) ⁽¹⁾					
Permit No.	NOx	CO	VOC	SOx	PM ₁₀
N-9149-1-0 (ATC Permit)	1,825	9,709	1,606	840	29,000
N-9149-2-0 (ATC Permit)	1,825	9,709	1,606	840	
N-9149-3-0 (ATC Permit)	1,278	7,629	1,132	584	
N-9149-4-0 (ATC Permit)	0	0	0	0	
Total	4,928	27,047	4,344	2,264	29,000

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.	NOx	CO	VOC	SOx	PM ₁₀
N-9149-1-0 (ATC Permit) ⁽²⁾	0	0	0	0	0
N-9149-2-0 (ATC Permit) ⁽²⁾	0	0	0	0	0
N-9149-3-0 (ATC Permit) ⁽²⁾	0	0	0	0	0
N-9149-4-0 (ATC Permit) ⁽²⁾	0	0	0	0	0
N-9149-5-0 (ATC Permit)	1,747	10,632	1,580	820	29,000 ⁽³⁾
N-9149-6-0 (ATC Permit)	1,747	10,632	1,580	820	
N-9149-7-0 (ATC Permit)	1,052	19,218	952	494	
N-9149-8-0 (ATC Permit)	0	0	0	0	
Total	4,546	40,482	4,112	2,134	29,000

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:

¹ Unless otherwise noted, the annual PE for this facility was obtained from project #N-1151582.

² These permit units will be deleted prior to or at the same time ATC permits N-9149-5-0 thru -8-0 are implemented; therefore, the emissions from this unit will be set equal to zero.

³ ATC Permits N-9149-5-0 thru -8-0 will be limited by a facility-wide PM₁₀ emissions limit (SLC) of 29,000 lb/year.

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

There are no ERCs listed for this facility.

Major Source Determination (lb/year)					
	NOx	CO	VOC	SOx	PM ₁₀
SSPE2	4,546	40,482	4,112	2,134	29,000
Major Source Determination SSPE2	4,546	40,482	4,112	2,134	29,000
Major Source Threshold	20,000	200,000	20,000	140,000	140,000
Major Source	NO	NO	NO	NO	NO

As seen in the table above, the facility is not a Major Source for any affected pollutant.

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 following PSD Major Source thresholds are applicable. For the purposes of determining major source for PSD, the following shall not be included:

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

PSD Major Source Determination (tons/year)						
Permit Unit	NO ₂ (as NOx)	VOC	SO ₂ (as SOx)	CO	PM	PM ₁₀
Total Estimated Facility PE before Project Increase ⁽⁴⁾	2.464	2.172	1.132	13.534	14.5	14.5
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 major source for PSD for any pollutant. Therefore the facility is not an existing major source for PSD.

⁴ The estimated facility annual PE for NO₂ (calculated as NOx), VOC, SO₂ (calculated as SOx), CO, PM (assumed to be equal to PM₁₀), and PM₁₀ are based on the SSPE1 totals as determined in above in Section VII.C.3.

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

As shown in Section VII.C.5 above, the facility is not a Major source for any pollutant. Therefore, BE = PE1.

N-283-5-0, '-6-0, '-7-0, & '-8-0:

Since these are new emission units, BE = PE1 = 0 for all pollutants.

7. SB 288 Major Modification

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

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

8. Federal Major Modification

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

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

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

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source. As determined in Section VII.C.5. above in this document, this facility is an existing PSD Major Source.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

Potential to Emit for New or Modified Emission Units vs PSD Major Source Thresholds:

As a screening tool, the project potential to emit from all new and modified units is compared to the PSD major source threshold, and if total project potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

The estimated project annual PE for NO₂ (calculated as NO_x), VOC, SO₂ (calculated as SO_x), CO, PM (assumed to be equal to PM₁₀), and PM₁₀ are based on the Annual PE₂ totals as determined in Section VII.C.2. of this document.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds as indicated in the tables below are applicable.

Project PSD Major Source Determination (tons/year)						
	NO ₂ (as NO _x)	VOC	SO ₂ (as SO _x)	CO	PM	PM ₁₀
Total PE from New and Modified Units	2.273	2.056	1.067	20.241	14.5	14.5
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source	No	No	No	No	No	No

As shown in the table above, the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore Rule 2410 is not applicable and no further discussion 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 G.

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

N-9149-5-0 & '6-0:

New Emissions Unit BACT Applicability (Boilers)				
Pollutant	Daily PE _{2N-9149-5-0 & '6-0} (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/year)	BACT Triggered
NO_x	4.8	> 2.0	n/a	Yes
CO	29.1	> 2.0 and SSPE2 ≥ 200,000 lb/year	40,482	No
VOC	4.3	> 2.0	n/a	Yes
PM₁₀	2.4	> 2.0	n/a	Yes
SO_x	2.2	> 2.0	n/a	Yes

As determined in the table above, BACT is triggered for NO_x, VOC, PM₁₀, and SO_x emissions for each boiler.

N-9149-7-0:

New Emissions Unit BACT Applicability (Process Heater)				
Pollutant	Daily PE _{2,N-9149-7-0/Process Heater} (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/year)	BACT Triggered
NO _x	2.9	> 2.0	n/a	Yes
CO	17.6	> 2.0 and SSPE2 ≥ 200,000 lb/year	40,482	No
VOC	2.6	> 2.0	n/a	Yes
PM ₁₀	1.4	> 2.0	n/a	No
SO _x	1.4	> 2.0	n/a	No

As determined in the table above, BACT is triggered for NO_x and VOC emissions from the process heater.

New Emissions Unit BACT Applicability (Milk Drying, Milling, Sifting, Conveying, and Storage)				
Pollutant	Daily PE _{2,N-9149-7-0/Baghouse} (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/year)	BACT Triggered
NO _x	0	> 2.0	n/a	No
CO	0	> 2.0 and SSPE2 ≥ 200,000 lb/year	40,482	No
VOC	0	> 2.0	n/a	No
PM ₁₀	91.1	> 2.0	n/a	Yes
SO _x	0	> 2.0	n/a	No

N-9149-8-0:

New Emissions Unit BACT Applicability (Dried Milk Packaging)				
Pollutant	Daily PE _{2,N-9149-8-0} (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/year)	BACT Triggered
NO _x	0	> 2.0	n/a	No
CO	0	> 2.0 and SSPE2 ≥ 200,000 lb/year	40,482	No
VOC	0	> 2.0	n/a	No
PM ₁₀	6.4	> 2.0	n/a	Yes
SO _x	0	> 2.0	n/a	No

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

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

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.

2. BACT Guideline

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule." For source categories or classes covered in the BACT Clearinghouse, relevant information under each of the steps may be simply cited from the Clearinghouse without further analysis.

N-9149-5-0 & -6-0:

The District's current BACT Clearinghouse Guideline 1.1.2, covers boilers greater than 20.0 MMBtu/hr. However, BACT Guideline 1.1.2 has been rescinded. Therefore, a project specific BACT analysis will be performed for these boilers.

N-9149-7-0 (Process Heater):

The District's current BACT Clearinghouse Guideline 1.1.1, covers boilers less than 20.0 MMBtu/hr, which is also applicable to process heaters. However, BACT Guideline 1.1.1 has been rescinded. Therefore, a project specific BACT analysis will be performed for this process heater.

N-9149-7-0 (Milk Drying, Milling, Sifting, Conveying, and Storage):

The District's current BACT Clearinghouse Guideline 8.4.3, covers dry material handling operations (See Appendix D), which applies to the milk drying, milling, sifting, conveying, and storage processes. Therefore, relevant information will be cited from the referenced BACT Guideline without further analysis.

N-9149-8-0 (Dried Milk Packaging):

The District's current BACT Clearinghouse Guideline 8.4.3, covers dry material handling operations (See Appendix D), which applies to the dried milk packaging process. Therefore, relevant information will be cited from the referenced BACT Guideline without further analysis.

3. Top-Down BACT Analysis

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

N-9149-5-0 & '6-0:

These boilers trigger BACT for NO_x, VOC, PM₁₀, and SO_x emissions. Pursuant to the top-down BACT analysis in Appendix C of this document, BACT is satisfied with the following control methods:

NO_x: 5.0 ppmvd @ 3% O₂ (or less).
VOC: Use of PUC-Quality Natural Gas Fuel.
PM₁₀: Use of PUC-Quality Natural Gas Fuel.
SO_x: Use of PUC-Quality Natural Gas Fuel.

The applicant is proposing the above control methods; therefore BACT requirements are satisfied for the proposed boilers.

N-9149-7-0:

The process heater serving the milk dryer triggers BACT for NO_x and VOC emissions. Pursuant to the top-down BACT analysis in Appendix C of this document, BACT is satisfied with the following control methods:

NO_x: 5.0 ppmvd @ 3% O₂ (or less).
VOC: Use of PUC-Quality Natural Gas Fuel.

The applicant is proposing the above control methods; therefore BACT requirements are satisfied for the proposed process heater.

The milk drying, milling, sifting, conveying, and storage operations triggers BACT for PM₁₀ emissions. Pursuant to the top-down BACT analysis in Appendix E of this document, BACT is satisfied with the following control method:

PM₁₀: Processing equipment all enclosed and vented to a fabric filter baghouse, or equivalent (99% or greater control efficiency).

The applicant is proposing the above control method; therefore BACT requirements are satisfied for the proposed milk drying, milling, sifting, conveying, and storage operations.

N-9149-8-0:

The dried milk packaging operation triggers BACT for PM₁₀ emissions. Pursuant to the top-down BACT analysis in Appendix E of this document, BACT is satisfied with the following control method:

PM₁₀: Processing equipment all enclosed and vented to a fabric filter baghouse, or equivalent (99% or greater control efficiency).

The applicant is proposing the above control method; therefore BACT requirements are satisfied for the proposed dried milk packaging operation.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to 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	4,546	2,134	29,000	40,482	4,112
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

2. Quantity of Offsets Required

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

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	4,928	4,546	20,000 lb/year	No
SO _x	2,264	2,134	54,750 lb/year	No
PM ₁₀	29,000	29,000	29,200 lb/year	No
CO	27,047	40,482	200,000 lb/year	No
VOC	4,344	4,112	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. Since the ATC permits previously issued under project #N-151582 were never installed and are being replaced by the ATC permits under this project, the SSPE1 will be set equal to zero for SSIPE notification determination purposes. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	4,546	0	4,546	20,000 lb/year	No
SO _x	2,134	0	2,134	20,000 lb/year	No
PM₁₀	29,000	0	29,000	20,000 lb/year	Yes
CO	40,482	0	40,482	20,000 lb/year	Yes
VOC	4,112	0	4,112	20,000 lb/year	No

As demonstrated above, the SSIPEs for PM₁₀ and CO were 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 for PM₁₀ and CO emissions each in excess of the SSIPE public notification threshold of 20,000 lb/year. Therefore, public notification and publication requirements as indicated in Section 5.5 of District Rule 2201 will be required for 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.

N-9149-5-0 & '6-0:

For the proposed natural gas fired boilers, the DELs will be based on the maximum boiler fuel combustion rate and emission factors. The following conditions will be placed on the Authority to Construct (ATC) and Permit to Operate (PTO) to enforce the requirements of this section:

Proposed Rule 2201 (DEL) Conditions for ATC Permits N-9149-5-0 & -6-0:

- *{Modified 3200} Emissions from the natural gas-fired unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.0061 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.003 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0369 lb-CO/MMBtu, or 13 ppmvd VOC @ 3% O₂ or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]*
- *{4355} The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320]*

N-9149-7-0:

For the proposed natural gas fired process heater, the DELs will be based on the maximum process heater fuel combustion rate and emission factors. For the milk drying, milling, sifting, conveying, and storage operations, the DELs will be based on the maximum quantity of milk powder produced and emission rate in pounds emitted per ton of milk powder produced. The following conditions will be placed on the ATC and PTO to enforce the requirements of this section:

Proposed Rule 2201 (DEL) Conditions for ATC Permit N-9149-7-0:

- *{Modified 3200} Emissions from the natural gas-fired unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.0061 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.003 lb-PM₁₀/MMBtu, 150 ppmvd CO @ 3% O₂ or 0.1108 lb-CO/MMBtu, or 13 ppmvd VOC @ 3% O₂ or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]*
- *{4355} The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320]*
- *The quantity of milk powder produced shall not exceed 125 tons in any single day. [District Rule 2201]*
- *PM₁₀ emissions from the baghouse serving the milk powder production equipment shall not exceed 0.729 pounds per ton of milk powder produced⁽⁵⁾. [District Rule 2201]*

N-9149-8-0:

For the milk powder packaging operation, the DELs will be based on the maximum quantity of milk powder packaged and emission rate in pounds emitted per ton of milk powder packaged. The following conditions will be placed on the ATC and PTO to enforce the requirements of this section:

⁵ DEL for Milk Powder Processing Baghouse (PM₁₀) = 91.1 lb-PM₁₀/day ÷ 125 tons Milk Powder Produced = 0.729 lb-PM₁₀/ton of milk powder produced

Proposed Rule 2201 (DEL) Conditions for ATC Permit N-9149-8-0:

- *The quantity of milk powder packaged shall not exceed 125 tons in any single day. [District Rule 2201]*
- *PM₁₀ emissions from the baghouse serving the milk powder packaging equipment shall not exceed 0.0512 pounds per ton of milk powder produced⁽⁶⁾. [District Rule 2201]*

E. Compliance Assurance

1. Source Testing

N-9149-5-0 & '-6-0:

The new boilers are subject to the source testing requirements of District Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process heaters Greater Than 5.0 MMBtu/hr). Refer to Section VIII, Rule 4320, for a discussion of these source testing requirements.

N-9149-7-0:

The process heater associated with this permit unit is subject to the source testing requirements of District Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process heaters Greater Than 5.0 MMBtu/hr). Refer to Section VIII, Rule 4320, for a discussion of these source testing requirements.

According to District Policy APR 1705, non-combustion equipment served by a baghouse/dust collector or cyclone with expected PM₁₀ emissions of 30 pounds per day or greater shall be source tested upon initial start-up. Units with PM₁₀ emissions in excess of 70 pounds per day should also be tested on an annual basis. Pursuant to Section VII.C.2. of this document, the PM₁₀ emissions from the baghouse serving the milk drying, milling, sifting, conveying, and storage equipment will exceed 70 pounds per day. Therefore, initial startup and annual source testing of the proposed baghouse will be required. The following permit conditions will be included on the ATC permit to enforce the source testing requirements:

- *Source testing to measure PM₁₀ emissions from the exhaust of the baghouse serving the milk drying operation shall be conducted within 60 days of initial start-up and annually thereafter. [District Rule 2201]*

⁶ DEL for Milk Powder Packaging Baggouse (PM₁₀) = 6.4 lb-PM₁₀/day + 125 tons Milk Powder Packaged = 0.0512 lb-PM₁₀/ton of milk powder packaged

- *Source testing to measure PM₁₀ emissions from the exhaust of the baghouse serving the milk drying operation shall be conducted using EPA Methods 201A and 202. Alternatively, the results of a total particulate matter test using CARB Method 5 may be used to demonstrate compliance with the PM₁₀ emission limit provided the results include both the filterable (front half) and condensable (back half) particulates, and that all particulate matter is assumed to be PM₁₀. Should the permittee decide to use different test methodology, the methodology shall first be approved by the District prior to its use. [District Rule 2201]*

N-9149-8-0:

According to District Policy APR 1705, non-combustion equipment served by a baghouse/dust collector or cyclone with expected PM₁₀ emissions of 30 pounds per day or greater shall be source tested upon initial start-up. Units with PM₁₀ emissions in excess of 70 pounds per day should also be tested on an annual basis. Pursuant to Section VII.C.2. of this document, the PM₁₀ emissions from the baghouse serving the milk powder packaging equipment will not exceed 30 pounds per day. Therefore, source testing is not required for this permit unit.

2. Monitoring

N-9149-5-0 & '6-0:

The boilers will be subject to the monitoring requirements of District Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process heaters Greater Than 5.0 MMBtu/hr). Refer to Section VIII, Rule 4320, for a discussion of these monitoring requirements.

N-9149-7-0:

The process heater will be subject to the monitoring requirements of District Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process heaters Greater Than 5.0 MMBtu/hr). Refer to Section VIII, Rule 4320, for a discussion of these monitoring requirements.

The baghouse serving the milk drying operation will be equipped with a pressure differential gauge. Therefore, monitoring of the baghouse pressure drop across the filters will be required. The following permit conditions will be included in the ATC and PTO to enforce the requirements of this section:

- *The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter media. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]*

- *When in operation, the differential pressure of the baghouse shall not be less than 1 inch water column nor greater than 10 inches water column. [District Rule 2201]*
- *Differential operating pressure shall be monitored and recorded on each day that the baghouse operates. [District Rule 2201]*

N-9149-8-0:

The baghouse serving the milk powder packaging operation will be equipped with a pressure differential gauge. Therefore, monitoring of the baghouse pressure drop across the filters will be required. The following permit conditions will be included in the ATC and PTO to enforce the requirements of this section:

- *The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter media. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]*
- *When in operation, the differential pressure of the baghouse shall not be less than 1 inch water column nor greater than 6 inches water column. [District Rule 2201]*
- *Differential operating pressure shall be monitored and recorded on each day that the baghouse operates. [District Rule 2201]*

3. Recordkeeping

N-9149-5-0 & '6-0:

The boilers will be subject to the recordkeeping requirements of District Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process heaters Greater Than 5.0 MMBtu/hr). Refer to Section VIII, Rule 4320, for a discussion of these recordkeeping requirements.

N-9149-7-0:

The process heater will be subject to the recordkeeping requirements of District Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process heaters Greater Than 5.0 MMBtu/hr). Refer to Section VIII, Rule 4320, for a discussion of these recordkeeping requirements.

The following recordkeeping requirements will also be included in the ATC and PTO to verify compliance with the daily emission limits and maintenance of the baghouse:

- *The permittee shall maintain a daily record of the total quantity of dried milk produced (in tons per day). [District Rule 2201]*

- *The permittee shall maintain a rolling 12-consecutive month total of the facility-wide PM₁₀ emissions (in pounds). The rolling 12-consecutive month total shall be updated at least once each month. [District Rules 1070 and 2201]*
- *Records of all maintenance of the baghouse, including all change outs of filter media, shall be maintained. [District Rules 1070 and 2201]*
- *All records shall be maintained and retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070 and 2201]*

N-9149-8-0:

The following recordkeeping requirements will also be included in the ATC and PTO to verify compliance with the daily emission limits and maintenance of the baghouse:

- *The permittee shall maintain a daily record of the total quantity of dried milk packaged (in tons per day). [District Rule 2201]*
- *The permittee shall maintain a rolling 12-consecutive month total of the facility-wide PM₁₀ emissions (in pounds). The rolling 12-consecutive month total shall be updated at least once each month. [District Rules 1070 and 2201]*
- *Records of all maintenance of the baghouse, including all change outs of filter media, shall be maintained. [District Rules 1070 and 2201]*
- *All records shall be maintained and retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070 and 2201]*

4. Reporting

N-9149-5-0 & '-6-0:

The boilers source test reports are required to be submitted within 60 days of each source test. The following permit condition will be included in the ATC and PTO to enforce the requirements of this section:

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

N-9149-7-0:

The process heater and baghouse source test reports are required to be submitted within 60 days of each source test. The following permit condition will be included in the ATC and PTO to enforce the requirements of this section:

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

N-9149-8-0:

No reporting requirements are applicable to this permit unit.

F. Ambient Air Quality Analysis (AAQA)

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

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

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

Rule 2410 Prevention of Significant Deterioration

N-9149-5-0, '-6-0, '-7-0, & '-8-0:

As determined above in Section VII.C.5. of this document, this facility is not an existing major source for PSD for any one pollutant. In addition, as determined above in Section VII.C.9., the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore, Rule 2410 is not applicable and no further discussion is required.

Rule 2520 Federally Mandated Operating Permits

N-9149-5-0, '-6-0, '-7-0, & '-8-0:

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

Rule 4001 New Source Performance Standards (NSPS)

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.

N-9149-5-0, '-6-0, & '-7-0:

40 CFR Part 60 Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction). The proposed two 32.863 MMBtu/hr boilers (ATC Permits N-9149-5-0 & '-6-0) and one 19.8 MMBtu/hr process heater (ATC Permit N-9149-7-0) falls within the heat input range; therefore, this subpart applies to these emission units.

60.42c – Standards for Sulfur Dioxide

Since coal will not be combusted by the boilers and process heater, the requirements of this section are not applicable.

60.43c – Standards for Particulate Matter

The boilers and process heater will not be fired on coal, mixtures of coal with other fuels, wood, mixtures of wood with other fuels, or oil; therefore the boilers and process heater are not subject to the requirements of this section.

60.44c – Compliance and Performance Tests Methods and Procedures for Sulfur Dioxide.

Since the boilers and process heater in this project are not subject to the sulfur dioxide requirements of this subpart, testing to demonstrate compliance is not required.

60.45c – Compliance and Performance Test Methods and Procedures for Particulate Matter

Since the boilers and process heater in this project are not subject to the particulate matter requirements of this subpart, testing to demonstrate compliance is not required.

60.46c – Emission Monitoring for Sulfur Dioxide

Since the boilers and process heater in this project are not subject to the sulfur dioxide requirements of this subpart, no monitoring is required.

60.47c – Emission Monitoring for Particulate Matter

Since the boilers and process heater in this project are not subject to the particulate matter requirements of this subpart, no monitoring is required.

60.48c – Reporting and Recordkeeping Requirements

Section 60.48c (a) states that the owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by §60.7 of this part. This notification shall include:

- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

The design heat input capacity and type of fuel combusted at the facility will be listed on each unit's equipment description. No conditions are required to show compliance with this requirement.

- (2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel mixture of fuels under §60.42c or §40.43c.

This requirement is not applicable since the boilers and process heater are not subject to §60.42c or §40.43c.

- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

The facility has not proposed an annual capacity factor; therefore one will not be required.

- (4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c (a) or (b)(1), unless and until this determination is made by the Administrator

This requirement is not applicable since the boilers and process heater will not be equipped with an emerging technology used to control SO₂ emissions.

Section 60.48c (g) states that the owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day unless an applicable alternative is provided per Sections 60.48(g)(2) or 60.48(g)(3). Section 60.48(g) (2), which allows monthly records, applies because only natural gas will be burned. Therefore, monthly fuel records will be required. The following conditions will be listed on the ATC permit and PTO:

- *A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [40 CFR 60.48 (c)(g)]*
- *The permittee shall monthly records of the natural gas combusted by this unit. [40 CFR 60.48c (g)(2)]*

Section 60.48c (i) states that all records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record. District Rules 4306 and 4320 are more stringent and requires that records be kept for five years. Therefore, compliance is expected with this section.

Compliance with the requirements of this Rule is expected.

N-9149-8-0:

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 dried milk packaging 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.

N-9149-5-0, '6-0, & '7-0:

40 CFR Part 63 Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

This subpart applies to industrial, commercial, and institutional boilers and process heaters as defined in § 63.7575 that is a major source of hazardous air pollutants (HAPs) as defined in §63.2. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, considering controls, any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year.

As determined in Appendix H (Facility HAPs Emission Calculations), this facility is not a major HAP source, and is only subject to the area source of NESHAP. Therefore, this subpart is not applicable and no further discussion is required.

40 CFR Part 63 Subpart JJJJJ National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Pursuant to Section 63.1195(e) a gas-fired boiler, as defined in Subpart JJJJJ, is not subject to any requirements of this Subpart. Pursuant to the definition in the subpart, a gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. The proposed boilers meet the definition of a gas-fired boiler as it is only fired on natural gas fuel. Therefore, Subpart JJJJJ requirements are not applicable.

N-9149-8-0:

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 dried milk packaging operations.

Rule 4101 Visible Emissions

N-9149-5-0, '-6-0, '-7-0, & '-8-0:

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). Opacity is expected to be less than 20% provided that the equipment is maintained and operated properly. The following condition will be listed on each ATC and PTO to ensure compliance with the visible emission requirement:

- *{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]*

Per District Policy SSP 1005, the visible emissions from a baghouse/dust collector shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. If the equipment is properly maintained this requirement should not be exceeded. The following condition will be listed on ATCs and PTOs N-9149-7-0 and '-8-0 to ensure compliance with this visible emission requirement.

- *Visible emissions from the exhaust of the baghouse shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]*

Rule 4102 Nuisance

N-9149-5-0, '-6-0, '-7-0, & '-8-0:

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected. The following condition will be listed on each the permit ATC and PTO to ensure compliance:

- *{98} 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 F), 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 in the following table:

RMR Summary				
Categories	Boilers (Units N-9149-5 & 6-0)	Process Heater (Unit N-9149-7-0)	Project Totals	Facility Totals
Prioritization Score	0.215	0.129	0.559	<1.0
Acute Hazard Index	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Chronic Hazard Index	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Maximum Individual Cancer Risk (10 ⁻⁶)	N/A ¹	N/A ¹	N/A ¹	N/A ¹
T-BACT Required?	No	No		
Special Permit Conditions?	Yes	Yes		

¹The project passed on prioritization with a score less than 1; therefore, no further analysis was required.

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 F of this report, the emissions increases for this project was determined to be less than significant.

To ensure that human health risks will not exceed District allowable levels, the following condition will be included on each permit:

- *The boiler exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (a flapper type is acceptable), roof overhang, or any other obstruction. [District Rule 4102]*

Rule 4201 Particulate Matter Concentration

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

N-9149-5-0, '-6-0, & '-7-0 (Process Heater):

According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter. Since the boiler will be fired exclusively on natural gas fuel, it is reasonable to assume the PM emissions will be the same as the PM_{10} emissions. Thus, the particulate concentration in the exhaust of the boilers and process heater may be calculated as follows:

$$\begin{aligned}\text{PM Concentration} &= 0.003 \text{ lb-PM}_{10}/\text{MMBtu} \times \text{MMBtu}/8,578 \text{ dscf} \times 7,000 \text{ gr/lb} \\ &= 0.002 \text{ gr/dscf} < 0.1 \text{ gr/dscf}\end{aligned}$$

Therefore, as long as the equipment is properly maintained and operated, compliance with District Rule 4201 requirements is expected.

N-9149-7-0 (Milk Drying Processes) & '-8-0:

The milk drying, conveying, storage, and packaging processes will be served by dust collectors with a proposed particulate matter (PM) emission rate concentration of 0.00675 gr/dscfm, which is less than this rule required PM emission rate concentration of 0.1 gr/dscf. Therefore, as long as the equipment is properly maintained and operated, compliance with District Rule 4201 requirements is expected.

As shown above compliance with District Rule 4201 requirements is expected for these permit units. The following condition will be listed on each ATC permit and PTO to ensure compliance:

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

Rule 4202 Particulate Matter Emission Rate

The purpose of this rule is to limit particulate matter emissions by establishing allowable emission rates. Per section 4.1, particulate matter emissions from any source operation shall not exceed the allowable hourly emission rate as calculated using the following applicable formulas:

$$\begin{aligned}E_{\text{Max.}} &= 3.59 \times P^{0.62} - \text{if } P \leq 30 \text{ tons/hr} \\ E_{\text{Max.}} &= 17.31 \times P^{0.16} - \text{if } P > 30 \text{ tons/hr}\end{aligned}$$

Where, $E_{\text{Max.}}$ = Emissions in lb/hr
 P = Process weight rate in tons/hr

Since the process rate for these units are less than 30 tons/hr, the formula for the maximum allowable hourly emission rate is:

$$E_{\text{Max.}} = 3.59 P^{0.62}$$

ATC Permit Number	E _{Proposed} (lb-PM/hr)	P (ton/hr)	E _{Max.} (lb-PM/hr)
N-9149-7-0	3.8 ⁽⁷⁾	5.21 ⁽⁸⁾	10.0
N-9149-8-0	0.3 ⁽⁹⁾	5.21 ⁽¹⁰⁾	10.0

Since the proposed PM Emission rate is less than the allowable maximum emission rate, the proposed operations are expected to operate in compliance with this rule.

Rule 4301 Fuel Burning Equipment

N-9149-5-0, '-6-0, & '-7-0:

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. The emissions rates from the proposed new boiler are shown in the table below.

District Rule 4301 Limits			
Pollutant	NO ₂ (lb/hr)	Total PM (lb/hr)	SO ₂ (lb/hr)
ATC Permits N-9149-5-0 & '-6-0 (Natural Gas Combustion)	0.20	0.10	0.09
ATC Permit N-9149-7-0 (Natural Gas Combustion)	0.12	0.06	0.06
Rule Limit	140	10	200

The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, compliance is expected.

Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters

N-9149-5-0, '-6-0, & '-7-0:

Rule 4304 details the tuning procedure required for boilers, steam generators, and process heaters under Rules 4305, 4306, and 4320. Those rules include an exemption from tune-ups for units that operate an APCO approved CEMS or alternate monitoring system where the applicable emission limits are periodically monitored. The applicant is proposing to use alternate monitoring system "A" from District Policy SSP-1105, *Alternate Monitoring for Rules*

⁷ Based on the assumption that 100% of the PM is PM10, therefore: E_{Proposed} = 91.1 lb-PM10/day ÷ (1.0 lb-PM10/lb-PM × 24 hr/day) = 3.8 lb-PM/hr

⁸ The maximum processing rate will be 125.0 tons/day operating at 24 hr/day, therefore: P = 125.0 tons/day ÷ 24 hr/day = 5.21 tons/hr

⁹ Based on the assumption that 100% of the PM is PM10, therefore: E_{Proposed} = 6.4 lb-PM10/day ÷ (1.0 lb-PM10/lb-PM × 24 hr/day) = 0.3 lb-PM/hr

¹⁰ The maximum processing rate will be 125.0 tons/day operating at 24 hr/day, therefore: P = 125.0 tons/day ÷ 24 hr/day = 5.21 tons/hr

4305, 4306, and 4320. Therefore, this unit is not subject to Rule 4304 and no further discussion is required.

District Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2

N-9149-5-0, '-6-0, & '-7-0:

Since the boilers and process heater are natural gas-fired with a rated heat input greater than 5 MMBtu/hr, pursuant to Section 2.0 of District Rule 4305, the unit is subject to this Rule. In addition, this boiler is also subject to District Rule 4306 (Boilers, Steam Generators and Process Heaters – Phase 3) and District Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr). Since the emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

Therefore, compliance with District Rule 4305 requirements is expected and no further discussion is required.

District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3

N-9149-5-0, '-6-0, & '-7-0:

The proposed boilers and process heater are subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*. In addition, this boiler is also subject to District Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr). Since the emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4306 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4306.

Therefore, compliance with District Rule 4306 requirements is expected and no further discussion is required.

Rule 4309 Dryers, Dehydrators, and Ovens

N-9149-7-0:

The purpose of this rule is to limit emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) from dryers, dehydrators, and ovens. This rule applies to any dryer, dehydrator, or oven that is fired on gaseous fuel, liquid fuel, or is fired on gaseous and liquid fuel sequentially, and the total rated heat input for the unit is 5.0 million British thermal units per hour (5.0 MMBtu/hr) or greater. The proposed milk drying operation is served by a 19.8 MMBtu/hr natural gas indirect-fired process heater and is not subject to the requirements of this rule. No further discussion is required.

Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr

N-9149-5-0, '-6-0, & '-7-0:

Pursuant to Section 2.0 of District Rule 4320, the boilers and process heater are subject to District Rule 4320. The following table details compliance with the requirements of this rule for these boilers and process heater.

District Rule 4320 Requirements	Method of Compliance													
<p>Section 5.1 lists three options for facilities to comply with the requirements of this rule. The applicant is proposing to comply with the option described in Section 5.1.1, which requires the facility to comply with the emission limits in Sections 5.2 and 5.4.</p> <p>Section 5.2, NOx and CO emission limits: The proposed boilers are subject to the emission limits listed in Table 1, Category B. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.0 percent (%) by volume stack gas oxygen.</p> <table border="1" data-bbox="162 898 889 1239"> <thead> <tr> <th colspan="3">Rule 4320 Emission Limits</th> </tr> <tr> <th>Category</th> <th colspan="2">Units Operated on Gaseous Fuel</th> </tr> <tr> <th>ATC Permit N-9149-5-0 & '-6-0</th> <th>NOx</th> <th>CO</th> </tr> </thead> <tbody> <tr> <td rowspan="2">B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through G units.</td> <td>Standard Schedule 7 ppmv or 0.008 lb/MMBtu</td> <td rowspan="2">400 ppmv</td> </tr> <tr> <td>Enhanced Schedule 5 ppmvd or 0.0062 lb/MMBtu</td> </tr> </tbody> </table>	Rule 4320 Emission Limits			Category	Units Operated on Gaseous Fuel		ATC Permit N-9149-5-0 & '-6-0	NOx	CO	B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through G units.	Standard Schedule 7 ppmv or 0.008 lb/MMBtu	400 ppmv	Enhanced Schedule 5 ppmvd or 0.0062 lb/MMBtu	<p>The applicant has proposed to install boilers with an ultra-low NOx burner to achieve a NOx emissions limit of 5.0 ppmv and a CO emissions limit of 50 ppmv.</p> <p>The proposed NOx and CO emission limits will meet the requirements of Section 5.2.</p> <p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> {3200} Emissions from the natural gas-fired unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.0061 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0369 lb-CO/MMBtu, or 13 ppmvd VOC @ 3% O₂ or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
Rule 4320 Emission Limits														
Category	Units Operated on Gaseous Fuel													
ATC Permit N-9149-5-0 & '-6-0	NOx	CO												
B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through G units.	Standard Schedule 7 ppmv or 0.008 lb/MMBtu	400 ppmv												
	Enhanced Schedule 5 ppmvd or 0.0062 lb/MMBtu													
<p>Section 5.2, NOx and CO emission limits. The proposed process heater is subject to the emission limits listed in Table 1, Category A. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.0 percent (%) by volume stack gas oxygen.</p> <table border="1" data-bbox="162 1402 889 1753"> <thead> <tr> <th colspan="3">Rule 4320 Emission Limits</th> </tr> <tr> <th>Category</th> <th colspan="2">Units Operated on Gaseous Fuel</th> </tr> <tr> <th>ATC Permit N-9149-7-0</th> <th>NOx</th> <th>CO</th> </tr> </thead> <tbody> <tr> <td rowspan="2">A. Units with a total rated heat input > 5.0 MMBtu/hr to ≤ 20.0 MMBtu/hr, except for Categories C through G units.</td> <td>Standard Schedule 9 ppmv or 0.011 lb/MMBtu</td> <td rowspan="2">400 ppmv</td> </tr> <tr> <td>Enhanced Schedule 6 ppmvd or 0.007 lb/MMBtu</td> </tr> </tbody> </table>	Rule 4320 Emission Limits			Category	Units Operated on Gaseous Fuel		ATC Permit N-9149-7-0	NOx	CO	A. Units with a total rated heat input > 5.0 MMBtu/hr to ≤ 20.0 MMBtu/hr, except for Categories C through G units.	Standard Schedule 9 ppmv or 0.011 lb/MMBtu	400 ppmv	Enhanced Schedule 6 ppmvd or 0.007 lb/MMBtu	<p>The applicant has proposed to install a process heater with an ultra-low NOx burner to achieve a NOx emissions limit of 5.0 ppmv and a CO emissions limit of 150 ppmv.</p> <p>The proposed NOx and CO emission limits will meet the requirements of Section 5.2.</p> <p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> {3200} Emissions from the natural gas-fired unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.0061 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.003 lb-PM10/MMBtu, 150 ppmvd CO @ 3% O₂ or 0.111 lb-CO/MMBtu, or 13 ppmvd VOC @ 3% O₂ or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
Rule 4320 Emission Limits														
Category	Units Operated on Gaseous Fuel													
ATC Permit N-9149-7-0	NOx	CO												
A. Units with a total rated heat input > 5.0 MMBtu/hr to ≤ 20.0 MMBtu/hr, except for Categories C through G units.	Standard Schedule 9 ppmv or 0.011 lb/MMBtu	400 ppmv												
	Enhanced Schedule 6 ppmvd or 0.007 lb/MMBtu													

<p>Section 5.4, Particulate Matter Control Requirements, requires the operator to comply with one of the following:</p> <ol style="list-style-type: none"> 1. Fire the boiler exclusively on PUC-quality natural gas, commercial propane, or a combination of such gases. 2. Limit fuel sulfur content to no more than 5 grains of total sulfur per 100 standard cubic feet. 3. Install and properly operate an emission control system that reduces SO₂ emissions by at least 95%, by weight, or limit exhaust SO₂ to less than or equal to 9 ppmv, corrected to 3.0% O₂. 	<p>This boilers and process heater will be fired exclusively on PUC-quality natural gas. Therefore the requirements of Section 5.4.1 will be satisfied.</p>
<p>Section 5.6 describes the startup and shutdown provisions in the rule.</p>	<p>The facility has not proposed to use the startup and shutdown provisions. Therefore, the requirements of this section do not apply.</p>
<p>Section 5.7, Monitoring Provisions: Section 5.4.2 requires each unit subject to Section 5.1 to either install a continuous emissions monitoring system (CEMS) for NO_x, CO and oxygen or implement an APCO-approved Alternate Emission Monitoring System.</p>	<p>The applicant has proposed to use Alternate Emission Monitoring System, Option A (periodic monitoring using District approved portable analyzer) from the District's pre-approved Alternate Monitoring Schemes per District Policy SSP 1105. The following conditions will be included on each permit:</p> <ul style="list-style-type: none"> • <i>{4315} The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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 Rules 4305, 4306, and 4320]</i> • <i>{4316} If either the NO_x or CO concentrations corrected to 3% 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</i>

	<p>with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320]</p> <ul style="list-style-type: none"> • {4317} 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 4305, 4306, and 4320] • {4318} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320]
<p>Section 5.7.6 outlines requirements for monitoring SO_x emissions. Section 5.7.6.1 requires the operator of any unit that proposes to comply with Section 5.4.1.1 (fired exclusively on PUC-quality natural gas, commercial propane, butane, LPG, or a combination of these fuel gases) or Section 5.4.1.2 (fuel sulfur content limit of 5 grains/100 scf) to provide an annual fuel analysis.</p>	<p>The boilers and process heater will be fired exclusively on PUC-Quality natural gas, which per District Policy APR 1720, the District assumes has a sulfur content not exceeding 1.0 grains/100 scf. Therefore, the District will accept analyses or other equivalent certification documents from the fuel supplier for demonstrating compliance with the SO_x emission monitoring requirement. The following condition will be included on each permit:</p> <ul style="list-style-type: none"> • {4356} Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320] N
<p>Section 5.8.1 requires that the operator of any unit shall have the option of complying with either the applicable heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling).</p>	<p>To ensure compliance with this section, the following condition will be listed on each permit:</p> <ul style="list-style-type: none"> • {4350} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]

<p>Section 5.8.2 requires that 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.</p>	<p>Therefore, the following permit condition will be listed on each permit as follows:</p> <ul style="list-style-type: none"> • <i>{4351} 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 4320. [District Rules 4305, 4306, and 4320]</i>
<p>Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, 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.</p>	<p>Therefore, the following permit condition will be listed on each permit as follows:</p> <ul style="list-style-type: none"> • <i>{4352} 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 4305, 4306, and 4320]</i>
<p>Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule.</p>	<p>The following permit condition will be listed on each permit as shown below:</p> <ul style="list-style-type: none"> • <i>{Modified 2983} All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320].</i>
<p>Section 6.1.2 requires that the operator of a unit subject to Section 5.5 shall record the amount of fuel use at least on a monthly basis.</p>	<p>Since the boilers and process heater are not subject to the requirements listed in Section 5.5, it is not subject to Section 6.1.2 requirements.</p>
<p>Section 6.1.3 requires that the operator of a unit subject to Section 5.5.1 or 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics have been performed.</p>	<p>These units are not subject to Section 5.5.1. Therefore, the requirements of this section do not apply.</p>
<p>Section 6.1.4 requires that the operator of a unit with startup or shutdown provisions keep records of the duration of the startup or shutdowns.</p>	<p>The applicant has not proposed that the emissions from the boilers and process heater will be different during start-up or shutdown events, so there will be no startup or shutdown provisions required.</p>
<p>Section 6.1.5 requires that the operator of a unit fired on liquid fuel during PUC-quality natural gas curtailment periods record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period.</p>	<p>The applicant has not proposed the use of curtailment fuels; therefore, the requirements of this section do not apply.</p>

<p>Section 6.2, Test Methods, identifies the test methods as District-approved source testing methods for all applicable pollutants.</p>	<p>The following permit conditions will be listed on each permit to ensure the applicable source test are performed:</p> <ul style="list-style-type: none"> • {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] • {4346} 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 4305, 4306, and 4320] • {4347} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] • {4348} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]
<p>Compliance with the NOx limit of Rule 4320 has not yet been shown for the proposed boilers and process heater. Therefore, an initial source test to show compliance with the NOx and CO emission limits of this rule must be conducted within 60 days of initial start-up.</p> <p>Section 6.3.1 requires that units be tested to determine compliance with the applicable requirements of section 5.1 and 5.3 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.</p>	<p>The following conditions will be included on each permit to verify compliance with the proposed NOx and CO emission limits:</p> <ul style="list-style-type: none"> • {4344} Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306 and 4320]. • {4345} Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) 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 (12) months. [District Rules 4305, 4306, and 4320] • {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Conditions will be incorporated into the ATC permits and PTOs in order to ensure compliance with each section of this rule. Compliance with the requirements of District Rule 4320 is expected.

District Rule 4351 - Boilers, Steam Generators and Process Heaters – Phase 1

N-9149-5-0, '-6-0, & '-7-0:

This rule applies to boilers, steam generators, and process heaters at NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. If applicable, the emission limits, monitoring provisions, and testing requirements of this rule are satisfied when the unit is operated in compliance with Rule 4320. This facility is not a Major Source for NO_x emissions. Therefore, this rule is not applicable.

Rule 4801 Sulfur Compounds

N-9149-5-0, '-6-0, & '-7-0:

Section 3.1 prohibits emissions of sulfur compounds as SO₂ in excess of 0.2% by volume (2,000 ppmv) averaged over 15 minutes.

From Section VII.B. of this document, the SO₂ emissions from the boilers and process heater are calculated based on an emission factor of 0.00285 lb-SO_x/MMBtu.

$$\begin{aligned}\text{lb-SO}_2/\text{exhaust vol.} &= (\text{lb-SO}_2/\text{MMBtu}) \div (\text{F factor}) \\ &= (0.00285 \text{ lb-SO}_2/\text{MMBtu}) \div (8,578 \text{ dscf/MMBtu}) \\ &= 3.32 \times 10^{-7} \text{ lb-SO}_2/\text{dscf}\end{aligned}$$

$$\text{Volume SO}_2/\text{exhaust vol.} = nRT/P$$

$$\begin{aligned}\text{Where, } n &= \text{moles SO}_x = (3.32 \times 10^{-7} \text{ lb-SO}_2/\text{dscf}) \div (64 \text{ lb-SO}_2/\text{lb-mol}) \\ &= 5.0 \times 10^{-9} \text{ lb-mol/dscf} \\ R &= \text{Universal gas constant} = 10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R} \\ T &= 60^\circ\text{F standard temperature} = 520^\circ \text{R} \\ P &= \text{Standard atmospheric pressure} = 14.7 \text{ psi}\end{aligned}$$

$$\begin{aligned}\text{Volume SO}_2/\text{exhaust vol.} &= [(5.0 \times 10^{-9} \text{ lb-mol/dscf}) \times (10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R}) \times \\ &\quad (520^\circ \text{R})] \div 14.7 \text{ psi} \\ &= 1.9 \times 10^{-6} \text{ dscf-SO}_2/\text{dscf-exhaust} \\ &= 1.9 \text{ ppmv} \ll 2,000 \text{ ppmv}\end{aligned}$$

Continued compliance with this rule is expected.

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.

The City of Turlock (City) is the public agency having principal responsibility for approving the project. As such, the City served as the Lead Agency (CCR §15367). In approving the project, the Lead Agency prepared and adopted a Mitigated Negative Declaration. The Lead agency filed a Notice of Determination, stating that the environmental document was adopted pursuant to the provisions of CEQA and concluding that the project would not have a significant effect on the environment.

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), (CCR §15381). As a Responsible Agency the District complies with CEQA by considering the environmental document prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project (CCR §15096).

The District has considered the Lead Agency's environmental document. Furthermore, the District has conducted an engineering evaluation of the project, this document, which demonstrates that Stationary Source emissions from the project would be below the District's thresholds of significance for criteria pollutants. Thus, the District finds that through a combination of project design elements, compliance with applicable District rules and regulations, and compliance with District air permit conditions, project specific stationary source emissions will have a less than significant impact on air quality. 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 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. Issue ATC permits N-9149-5-0, '-6-0, '-7-0, and '-8-0 subject to the permit conditions on the attached draft ATC permits in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-9149-5-0	3020-02-H	32.863 MMBtu/hr Boiler	\$1,128.00
N-9149-6-0	3020-02-H	32.863 MMBtu/hr Boiler	\$1,128.00
N-9149-7-0	3020-02-H	19.8 MMBtu/hr Process Heater	\$1,128.00
N-9149-8-0	3020-01-D	Total Electric Motors: 148 hp	\$345.00

XI. Appendixes

- Appendix A: Draft Authority to Construct (ATC) Permits N-9149-5-0, '-6-0, '-7-0, and '-8-0
- Appendix B: Top-Down BACT Analysis for NO_x, VOC, SO_x, and PM₁₀ Emissions for ATC Permits N-9149-5-0 and '-6-0.
- Appendix C: Top-Down BACT Analysis for NO_x and VOC Emissions for ATC Permit N-9149-7-0.
- Appendix D: District BACT Clearinghouse Guideline 8.4.3
- Appendix E: Top-Down BACT Analysis for PM₁₀ Emissions for ATC Permits N-9149-7-0 and '-8-0.
- Appendix F: Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) Summary
- Appendix G: Quarterly Net Emissions Change
- Appendix H: Facility Hazardous Air Pollutants (HAPs) Emission Calculations

APPENDIX A
Draft Authority to Construct Permits N-9149-5-0, '-6-0, '7-0, and '-8-0

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-9149-5-0

LEGAL OWNER OR OPERATOR: VALLEY MILK LLC
MAILING ADDRESS: 400 N. CALIFORNIA ROAD
TURLOCK, CA 95380

LOCATION: 400 N. CALIFORNIA ROAD
TURLOCK, CA 95380

EQUIPMENT DESCRIPTION:

32.863 MMBTU/HR CLEAVER-BROOKS MODEL CBEX ELITE 700-900-150ST NATURAL GAS-FIRED BOILER WITH A CLEAVER-BROOKS MODEL ULN5 ULTRA LOW NOX BURNER AND INDUCED FLUE GAS RECIRCULATION.

CONDITIONS

1. Authority to Construct permits N-9149-1-0 and N-9149-2-0 shall be cancelled prior to the implementation of this ATC permit. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {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]
4. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. {4355} The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320]
6. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [40 CFR 60.48c(g)(2)]
7. The boiler exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (a flapper type is acceptable), roof overhang, or any other obstruction. [District Rule 4102]
8. The height of the exhaust stack from the ground shall be at least 45 feet. Upon implementation of this Authority to Construct, this condition could be removed [District Rule 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-9149-5-0; Feb 27 2017 2:59PM - CHANK - Joint Inspection NOT Required

9. Emissions from this unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.0061 lb-NO_x/MMBtu (referenced as NO₂), 0.00285 lb-SO_x/MMBtu, 0.003 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ or 0.0369 lb-CO/MMBtu, or 13 ppmvd VOC @ 3% O₂ or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
10. Total annual PM₁₀ emissions from this facility, calculated on a rolling 12-consecutive month total basis, shall not exceed 29,000 pounds. [District Rule 2201]
11. {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]
12. Source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up. [District Rules 2201, 4305, 4306 and 4320]
13. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) 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 (12) months. [District Rules 4305, 4306 and 4320]
14. {4346} NO_x 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 4305, 4306, and 4320]
15. {4347} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]
16. {4348} Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]
17. {4349} Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320]
18. {4350} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
19. {4351} 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 4320. [District Rules 4305, 4306, and 4320]
20. {4352} 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 4305, 4306, and 4320]
21. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
22. {4315} The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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 Rules 4305, 4306, and 4320]
23. {4316} If either the NO_x or CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320]

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CONDITIONS CONTINUE ON NEXT PAGE

24. {4317} 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 4305, 4306, and 4320]
25. {4318} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320]
26. {4356} Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320]
27. The permittee shall maintain monthly records of the natural gas combusted by this unit. [40 CFR 60.48c(g)(2)]
28. The permittee shall maintain a rolling 12-consecutive month total of the facility-wide PM₁₀ emissions (in pounds). The rolling 12-consecutive month total shall be updated at least once each month. [District Rule 2201]
29. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-9149-6-0

LEGAL OWNER OR OPERATOR: VALLEY MILK LLC
MAILING ADDRESS: 400 N. CALIFORNIA ROAD
TURLOCK, CA 95380

LOCATION: 400 N. CALIFORNIA ROAD
TURLOCK, CA 95380

EQUIPMENT DESCRIPTION:

32.863 MMBTU/HR CLEAVER-BROOKS MODEL CBEX ELITE 700-900-150ST NATURAL GAS-FIRED BOILER WITH A CLEAVER-BROOKS MODEL ULN5 ULTRA LOW NOX BURNER AND INDUCED FLUE GAS RECIRCULATION.

CONDITIONS

1. Authority to Construct permits N-9149-1-0 and N-9149-2-0 shall be cancelled prior to the implementation of this ATC permit. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {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]
4. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. {4355} The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320]
6. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [40 CFR 60.48c(g)(2)]
7. The boiler exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (a flapper type is acceptable), roof overhang, or any other obstruction. [District Rule 4102]
8. The height of the exhaust stack from the ground shall be at least 45 feet. Upon implementation of this Authority to Construct, this condition could be removed [District Rule 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 Marjolle, Director of Permit Services

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9. Emissions from this unit shall not exceed any of the following limits: 5 ppmvd NOx @ 3% O2 or 0.0061 lb-NOx/MMBtu (referenced as NO2), 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.0369 lb-CO/MMBtu, or 13 ppmvd VOC @ 3% O2 or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
10. Total annual PM10 emissions from this facility, calculated on a rolling 12-consecutive month total basis, shall not exceed 29,000-pounds. [District Rule 2201]
11. {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]
12. Source testing to measure NOx and CO emissions from this unit shall be conducted within 90 days of initial start-up. [District Rules 2201, 4305, 4306 and 4320]
13. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) 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 (12) months. [District Rules 4305, 4306 and 4320]
14. {4346} 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 4305, 4306, and 4320]
15. {4347} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]
16. {4348} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]
17. {4349} Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320]
18. {4350} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
19. {4351} 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 4320. [District Rules 4305, 4306, and 4320]
20. {4352} 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 4305, 4306, and 4320]
21. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
22. {4315} The permittee shall monitor and record the stack concentration of NOx, CO, and O2 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 Rules 4305, 4306, and 4320]
23. {4316} If either the NOx or CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320]

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CONDITIONS CONTINUE ON NEXT PAGE

24. {4317} 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 4305, 4306, and 4320]
25. {4318} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320]
26. {4356} Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320]
27. The permittee shall maintain monthly records of the natural gas combusted by this unit. [40 CFR 60.48c(g)(2)]
28. The permittee shall maintain a rolling 12-consecutive month total of the facility-wide PM₁₀ emissions (in pounds). The rolling 12-consecutive month total shall be updated at least once each month. [District Rule 2201]
29. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-9149-7-0

LEGAL OWNER OR OPERATOR: VALLEY MILK LLC
MAILING ADDRESS: 400 N. CALIFORNIA ROAD
TURLOCK, CA 95380

LOCATION: 400 N. CALIFORNIA ROAD
TURLOCK, CA 95380

EQUIPMENT DESCRIPTION:

MILK DRYING OPERATION CONSISTING OF A MUNTER VARIMAX NATURAL GAS INDIRECT-FIRED PROCESS HEATER EQUIPPED WITH A 19.8 MMBTU/HR ALZETA CSB ULTRA LOW NOX BURNER AND WITH AN INTEGRATED STATIC FLUID BED DRYING CHAMBER, A VIBRO-FLUIDIZER, A MILK POWDER MILL, A MILK POWDER SIFTER, ONE 500 CUBIC FOOT START-UP MILK POWDER STORAGE SILO, TWO 3,900 CUBIC FOOT (EACH) MILK POWDER STORAGE SILOS ALL SERVED BY A 65,600 SCFM GEA PROCESS ENGINEERING, INC MODEL HUDSON STYLE BAGHOUSE

CONDITIONS

1. Authority to Construct permit N-9149-3-0 shall be cancelled prior to the implementation of this ATC permit. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {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]
4. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. Visible emissions from the exhaust of the baghouse serving the powder milk drying, conveying, and storage operations shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
6. The process heater shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320]
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [40 CFR 60.48c(g)(2)]

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 Marjolle, Director of Permit Services

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8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (a flapper type is acceptable), roof overhang, or any other obstruction. [District Rule 4102]
9. The height of the process heater exhaust stack from the ground shall be at least 118 feet. Upon implementation of this Authority to Construct, this condition could be removed [District Rule 4102]
10. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
11. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
12. Material removed from the baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
13. {3458} Replacement bags numbering at least 10% of the total number of bags in the baghouse shall be maintained on the premises. [District Rule 2201]
14. The cleaning frequency and duration of the baghouse shall be adjusted to optimize the control efficiency. [District Rule 2201]
15. The quantity of dried milk produced shall not exceed 125 tons in any given day. [District Rule 2201]
16. PM10 emissions from the milk drying operation shall not exceed 0.729 pounds per ton of dried milk produced. [District Rule 2201]
17. Emissions from combustion of natural gas in the process heater shall not exceed any of the following limits: 5 ppmvd NOx @ 3% O2 or 0.0061 lb-NOx/MMBtu (referenced as NO2), 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 150 ppmvd CO @ 3% O2 or 0.1108 lb-CO/MMBtu, or 13 ppmvd VOC @ 3% O2 or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
18. Total annual PM10 emissions from this facility, calculated on a rolling 12-consecutive month total basis, shall not exceed 29,000 pounds. [District Rule 2201]
19. {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]
20. Source testing to measure PM10 emissions from the exhaust of the baghouse serving the milk drying operation shall be conducted within 90 days of initial start-up, and annually thereafter. [District Rule 2201]
21. Source testing to measure PM10 emissions from the exhaust of the baghouse serving the milk drying operation shall be conducted using EPA Methods 201A and 202. Alternatively, the results of a total particulate matter test using CARB Method 5 may be used to demonstrate compliance with the PM10 emission limit provided the results include both the filterable (front half) and condensable (back half) particulates, and that all particulate matter is assumed to be PM10. Should the permittee decide to use different test methodology, the methodology shall first be approved by the District prior to its use. [District Rule 2201]
22. Source testing to measure NOx and CO emissions from this unit shall be conducted within 90 days of initial start-up. [District Rules 2201, 4305, 4306 and 4320]
23. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) 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 (12) months. [District Rules 4305, 4306 and 4320]
24. {4346} 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 4305, 4306, and 4320]
25. {4347} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]

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CONDITIONS CONTINUE ON NEXT PAGE

26. {4348} Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]
27. {4349} Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320]
28. {4350} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
29. {4351} 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 4320. [District Rules 4305, 4306, and 4320]
30. {4352} 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 4305, 4306, and 4320]
31. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
32. When in operation, the differential pressure of the baghouse shall not be less than 1 inches water column nor greater than 10 inches water column. [District Rule 2201]
33. Differential operating pressure of the baghouse shall be monitored and recorded on each day that it operates. [District Rule 2201]
34. {4315} The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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 Rules 4305, 4306, and 4320]
35. {4316} If either the NO_x or CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320]
36. {4317} 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 4305, 4306, and 4320]
37. {4318} The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320]
38. {4356} Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320]
39. The permittee shall maintain a daily record of the total quantity of dried milk produced (in tons per day). [District Rule 2201]
40. The permittee shall maintain monthly records of the natural gas combusted by this unit. [40 CFR 60.48c(g)(2)]

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CONDITIONS CONTINUE ON NEXT PAGE

41. The permittee shall maintain a rolling 12-consecutive month total of the facility-wide PM10 emissions (in pounds). The rolling 12-consecutive month total shall be updated at least once each month. [District Rule 2201]
42. Records of all maintenance of the baghouse, including all change outs of filter media, shall be maintained. [District Rules 1070 and 2201]
43. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-9149-8-0

LEGAL OWNER OR OPERATOR: VALLEY MILK LLC
MAILING ADDRESS: 400 N. CALIFORNIA ROAD
TURLOCK, CA 95380

LOCATION: 400 N. CALIFORNIA ROAD
TURLOCK, CA 95380

EQUIPMENT DESCRIPTION:
DRIED MILK PACKAGING OPERATION SERVED BY A 4,600 CFM DYNEQUIP MODEL DD-160302 BAGHOUSE

CONDITIONS

1. Authority to Construct permit N-9149-4-0 shall be cancelled prior to the implementation of this ATC permit. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {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]
4. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. Visible emissions from the exhaust of the baghouse serving the dried milk packaging operation shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
7. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
8. Material removed from the baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
9. {3458} Replacement bags numbering at least 10% of the total number of bags in the baghouse shall be maintained on the premises. [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.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

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10. The cleaning frequency and duration of the baghouse shall be adjusted to optimize the control efficiency. [District Rule 2201]
11. The quantity of dried milk packaged shall not exceed 125 tons in any given day. [District Rule 2201]
12. PM10 emissions from the dried milk packaging operation shall not exceed 0.0512 pounds per ton of dried milk processed. [District Rule 2201]
13. Total annual PM10 emissions from this facility, calculated on a rolling 12-consecutive month total basis, shall not exceed 29,000 pounds. [District Rule 2201]
14. When in operation, the differential pressure of the baghouse shall not be less than 1 inches water column nor greater than 6 inches water column. [District Rule 2201]
15. Differential operating pressure of the baghouse shall be monitored and recorded on each day that it operates. [District Rule 2201]
16. The permittee shall maintain daily records of the total quantity of dried milk packaged (in tons per day). [District Rule 2201]
17. The permittee shall maintain a rolling 12-consecutive month total of the facility-wide PM10 emissions (in pounds). The rolling 12-consecutive month total shall be updated at least once each month. [District Rule 2201]
18. Records of all maintenance of the baghouse, including all change outs of filter media, shall be maintained. [District Rules 1070 and 2201]
19. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

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APPENDIX B
Top-Down BACT Analysis for NO_x, VOC, SO_x, and PM₁₀ Emissions
for ATC Permits N-9149-5-0 and '-6-0

Top Down BACT Analysis for the Proposed New Boilers (Rated Heat Input > 20.0 MMBtu/hr):

1. BACT analysis for NO_x Emissions:

a. Step 1 - Identify all control technologies

The District considers the following NO_x emission limits:

Achieved-In-Practice:

7.0 ppmvd @ 3% O₂ (0.008 lb/MMBtu)

Technologically Feasible:

5.0 ppmvd @ 3% O₂ (0.0062 lb/MMBtu)

Alternate Basic Equipment:

None

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is technologically feasible.

c. Step 3 - Rank remaining options by control effectiveness

1. 5.0 ppmvd @ 3% O₂ (0.0062 lb/MMBtu) – Technologically Feasible Option
2. 7.0 ppmvd @ 3% O₂ (0.008 lb/MMBtu) – Achieved-In-Practice Option

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the most stringent control option listed in Step 3. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The most effective NO_x control technology not eliminated in Steps 2 and 4 above is a NO_x emissions limit of 5.0 ppmvd @ 3% O₂ (or less). The applicant is proposing a NO_x emissions limit of 5.0 ppmvd @ 3% O₂. Therefore, BACT for NO_x is being proposed.

2. BACT Analysis for VOC, SO_x, and PM₁₀ Emissions:

a. Step 1 – Identify all control technologies

The District considers the following control technologies to reduce VOC, SO_x, and PM₁₀ emissions:

Achieved-In-Practice:

Use of natural gas fuel with LPG backup.

Technologically Feasible:

None

Alternate Basic Equipment:

None

b. Step 2 – Eliminate technologically infeasible options

The control option listed in Step 1 is technologically feasible.

c. Step 3 – Rank remaining options by control effectiveness

Ranking is not necessary since there is only one control option listed in Step 1.

d. Step 4 – Cost Effectiveness Analysis

The above listed control technology is achieved-in-practice; therefore a cost analysis is not required.

e. Step 5 – Select BACT

The most effective VOC, SO_x, and PM₁₀ control technology not eliminated in Steps 2 and 4 above is the use of natural gas fuel with LPG backup. The applicant is proposing the use of natural gas fuel with no backup fuel. Therefore, BACT for VOC, SO_x, and PM₁₀ are being proposed.

APPENDIX C
Top-Down BACT Analysis for NO_x and VOC Emissions
for ATC Permit N-9149-7-0

Top Down BACT Analysis for the Proposed New Process Heater (Rated Heat Input \leq 20.0 MMBtu/hr):

1. BACT analysis for NO_x Emissions:

a. Step 1 - Identify all control technologies

The District considers the following NO_x emission limits:

Achieved-In-Practice:

9.0 ppmvd @ 3% O₂ (0.011 lb/MMBtu)

Technologically Feasible:

6.0 ppmvd @ 3% O₂ (0.007 lb/MMBtu)

Alternate Basic Equipment:

None

b. Step 2 - Eliminate technologically infeasible options

The control options listed in Step 1 are technologically feasible.

c. Step 3 - Rank remaining options by control effectiveness

1. 6.0 ppmvd @ 3% O₂ (0.007 lb/MMBtu) – Technologically Feasible Option
2. 9.0 ppmvd @ 3% O₂ (0.011 lb/MMBtu) – Achieved-In-Practice Option

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the most stringent control option listed in Step 3. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The most effective NO_x control technology not eliminated in Steps 2 and 4 above is a NO_x emissions limit of 6.0 ppmvd @ 3% O₂ (or less). The applicant is proposing a NO_x emissions limit of 5.0 ppmvd @ 3% O₂. Therefore, BACT for NO_x is being proposed.

2. BACT Analysis for VOC Emissions:

a. Step 1 – Identify all control technologies

The District considers the following control technologies to reduce VOC emissions:

Achieved-in-Practice:

Use of natural gas fuel with LPG backup.

Technologically Feasible:

None

Alternate Basic Equipment:

None

b. Step 2 – Eliminate technologically infeasible options

The control option listed in Step 1 is technologically feasible.

c. Step 3 – Rank remaining options by control effectiveness

Ranking is not necessary since there is only one control option listed in Step 1.

d. Step 4 – Cost Effectiveness Analysis

The above listed control technology is achieved-in-practice; therefore a cost analysis is not required.

e. Step 5 – Select BACT

The most effective VOC control technology not eliminated in Steps 2 and 4 above is the use of natural gas fuel with LPG backup. The applicant is proposing the use of natural gas fuel with no backup fuel. Therefore, BACT for VOC is being proposed.

APPENDIX D
District BACT Clearinghouse Guideline 8.4.3

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 8.4.3*

Last Update: 4/2/2012

Dry Material Handling Operation - Mixing, Blending, Milling, or Storage

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
PM10	Mixer, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse, or equivalent (99% or greater control efficiency)		

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

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

APPENDIX E
Top-Down BACT Analysis for PM₁₀ Emissions
for ATC Permits N-9149-7-0 and '-8-0

Top Down BACT Analysis for the Proposed Milk Powder Drying, Conveying, Storage, and Packaging Operations

1. BACT analysis for PM₁₀ Emissions:

BACT Guideline 8.4.3 covers dry material handling operations.

a. Step 1 - Identify all control technologies

Achieved-In-Practice:

Mixers, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse, or equivalent (99% or greater control efficiency).

Technologically Feasible:

None

Alternate Basic Equipment:

None

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is technologically feasible.

c. Step 3 - Rank remaining options by control effectiveness

Ranking is not necessary since there is only one control option listed in Step 1, which is the use of processing equipment all enclosed and vented to a fabric filter baghouse or equivalent (99% or greater control efficiency).

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the most stringent control option listed in Step 3. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The most effective NO_x control technology not eliminated in Steps 2 and 4 above is the use of processing equipment all enclosed and vented to a fabric filter baghouse or equivalent (99% or greater control efficiency). The applicant is proposing to use processing equipment all enclosed and vented to a baghouse with a control efficiency of at least 99%. Therefore, BACT for PM₁₀ is being proposed.

APPENDIX F
Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA)
Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Kai Chan – Permit Services

From: Marissa Williams – Technical Services

Date: February 9, 2017

Facility Name: Valley Milk, LLC

Location: 400 North Washington Road, Turlock, CA

Application #(s): N-9149-5-0, 6-0, 7-0, & 8-0

Project #: N-1163349

A. RMR SUMMARY

RMR Summary				
Categories	NG Boilers (Unit 5-0, 6-0)	NG Heater (Unit 7-0)	Project Totals	Facility Totals
Prioritization Score	0.215	0.129	0.559	<1.0
Acute Hazard Index	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Chronic Hazard Index	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Maximum Individual Cancer Risk	N/A ¹	N/A ¹	N/A ¹	N/A ¹
T-BACT Required?	No	No		
Special Permit Requirements?	Yes	Yes		

¹ The project passed on prioritization with a score less than 1; therefore, no further analysis was required.

Proposed Permit Requirements

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

Units 5-0, 6-0, 7-0, & 8-0

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

I. Project Description

Technical Services received a request on January 18, 2017, to perform an Ambient Air Quality Analysis (AAQA) and Risk Management Review (RMR) for the construction of a dry milk operation. This operation consists of: a milk drying operation (Unit 7-0), a dried milk packaging operation (Unit 8-0), two identical 32.9 MMBtu/hr natural gas boilers (Unit 5-0 & 6-0), and one 19.8 MMBtu/hr natural gas heater (Unit 7-0) to replace ATC Units N-9149-1-0 through 4-0. On January 31, 2017 Technical Services received a revised request to perform the same analysis and review with an update to the CO emission rate. Previously, the CO emission rate was reported as 0.731 lb-CO/hr and 6,406 lb-CO/yr, whereas the revised CO emission rate is 2.194 lb-CO/hr and 19,219 lb-CO/yr.

PM₁₀ emissions from food grade products are considered non-hazardous by the District pursuant to the guidance on food grade products and pre-cleaned material. Food grade material has been tested and certified by the FDA (or their agents) to be safe for human consumption with no or minimal risk; therefore, PM₁₀ generated from production of the dried milk powder operation under Units 7-0 and 8-0 will not be analyzed as part of this RMR.

II. Analysis

Toxic emissions from the project were calculated using 2001 Ventura County Air Pollution Control District emission factors for natural gas fired external combustion, and were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed unit was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameters			
Units 5-0, 6-0, 7-0			
Process Rate Unit 5-0, 6-0 (mmscf/hr)	0.033	Process Rate Unit 5-0, 6-0 (mmscf/yr)	287.880
Process Rate Unit 7-0 (mmscf/hr)	0.019	Process Rate Unit 7-0 (mmscf/yr)	173.448
Closest Receptor (m)	105.2	Max Hours per Year	8760

Technical Services also performed modeling for criteria pollutants NO_x, SO_x, CO, and PM₁₀; as well as the RMR for the natural gas boilers and heater. For the AAQA, AERMOD was used with the parameters outlined below and meteorological data for 2010-2014 from Merced to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a fence line receptor grid.

Analysis Parameters Unit 5-0, 6-0 (each)			
Source Type	Point	Location Type	Rural
Stack Height (m)	13.716	Stack Diameter. (m)	0.864
Stack Exit Velocity (m/s)	9.286	Max Hours per Year	8760
Stack Exit Temp. (°K)	479.11	Fuel Type	NG
Process Rate (mmscf/hr)	0.033	Process Rate (mmscf/yr)	287.880

Analysis Parameters Unit 7-0 (NG Heater)			
Source Type	Point	Location Type	Rural
Stack Height (m)	35.966	Stack Diameter. (m)	0.914
Stack Exit Velocity (m/s)	8.283	Max Hours per Year	8760
Stack Exit Temp. (°K)	421.333	Fuel Type	NG
Process Rate (mmscf/hr)	0.019	Process Rate (mmscf/yr)	173.448

Analysis Parameters Unit 7-0 (Baghouse)			
Source Type	Point	Location Type	Rural
Stack Height (m)	35.966	Stack Diameter. (m)	1.829
Stack Exit Velocity (m/s)	11.786	Stack Exit Temp. (°K)	310.778

Analysis Parameters Unit 8-0 (Baghouse)			
Source Type	Point	Location Type	Rural
Stack Height (m)	12.192	Stack Diameter. (m)	0.457
Stack Exit Velocity (m/s)	13.224	Stack Exit Temp. (°K)	310.778

The emission rates used for criteria pollutant modeling were provided by the processing engineer as below:

Unit #	NO _x (Lbs.)		SO _x (Lbs.)		CO (Lbs.)		PM ₁₀ (Lbs.)	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
5-0, 6-0	0.199	1,747	0.0937	821	1.124	10,632	0.0986	864
7-0 (Heater)	0.120	1,052	0.0564	494	2.194	19,219	0.0594	520
7-0 (Baghouse)	-	-	-	-	-	-	3.80	24,421
8-0	-	-	-	-	-	-	0.266	2,331

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

	Background Site	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Turlock (2015)	Pass	X	Pass	X	X
NO _x	Turlock (2015)	Pass ¹	X	X	X	Pass
SO _x	Fresno – Garland (2015)	Pass	Pass	X	Pass	Pass
PM ₁₀	Turlock (2015)	X	X	X	Pass ²	Pass ²
PM _{2.5}	Turlock (2015)	X	X	X	Pass ³	Pass ³

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

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

³The court has vacated EPA's PM_{2.5} SILs. Until such time as new SIL values are approved, the District will use the corresponding PM₁₀ SILs for both PM₁₀ and PM_{2.5} analyses.

III. Conclusion

The prioritization score is less than 1.0. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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

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

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

IV. Attachments

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

APPENDIX G
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change (QNEC) is calculated for emission profile purposes. It is assumed that the unit's annual emissions are evenly distributed throughout the year. Using the values calculated in Section VII.C.2. of this document, the QNEC is calculated as follows:

$$\text{QNEC (lb/qtr)} = \text{Annual PE2 (lb/year)} \div 4 \text{ Quarters/year}$$

QNEC for ATC Permit N-9149-5-0 & '6-0					
Pollutant	Annual PE2 (lb/year)	1 st Quarter (lb/quarter)	2 nd Quarter (lb/quarter)	3 rd Quarter (lb/quarter)	4 th Quarter (lb/quarter)
NOx	1,747	436	437	437	437
SOx	820	205	205	205	205
PM ₁₀	864	216	216	216	216
CO	10,632	2,658	2,658	2,658	2,658
VOC	1,580	395	395	395	395

QNEC for ATC Permit N-9149-7-0					
Pollutant	Annual PE2 (lb/year)	1 st Quarter (lb/quarter)	2 nd Quarter (lb/quarter)	3 rd Quarter (lb/quarter)	4 th Quarter (lb/quarter)
NOx	1,052	263	263	263	263
SOx	494	123	123	124	124
PM ₁₀	24,941 ⁽¹¹⁾	6,235	6,235	6,235	6,236
CO	19,218	4,804	4,804	4,805	4,805
VOC	952	238	238	238	238

QNEC for ATC Permit N-9149-8-0					
Pollutant	Annual PE2 (lb/year)	1 st Quarter (lb/quarter)	2 nd Quarter (lb/quarter)	3 rd Quarter (lb/quarter)	4 th Quarter (lb/quarter)
PM ₁₀	2,331	582	583	583	583

¹¹ Annual PE2_{PM10} (N-9149-7-0) = 29,000 lb-PM₁₀/year (SLC) – Annual PE2 (N-9149-5-0) – Annual PE2 (N-9149-6-0) – Annual PE2 (N-9149-8-0) = 29,000 lb-PM₁₀/year – 864 lb-PM₁₀/year – 864 lb-PM₁₀/year – 2,331 lb-PM₁₀/year = 24,941 lb-PM₁₀/year

APPENDIX I
Facility Hazardous Air Pollutants (HAPs) Emission Calculations

N-9149-5 and -6 [32.863 MMBtu/hr (each) natural gas-fired boilers]

HAP	Emission Factor (lb/MMBtu) ⁽¹⁾	Maximum Hourly Emissions (lb/hr) ⁽²⁾	Maximum Annual Emissions (lb/yr) ⁽³⁾	Maximum Annual Emissions (tpy)	Total Maximum Annual Emissions for total of two 32.683 MMBtu/hr boilers (tpy) ⁽⁴⁾
Acetaldehyde	3.10E-06	1.01E-04	0.88754	0.00044	0.00089
Acrolein	2.70E-06	8.82E-05	0.77302	0.00039	0.00077
Benzene	5.80E-06	1.90E-04	1.66056	0.00083	0.00166
1,3-Butadiene	n/a	--	--	--	--
Ethyl benzene	6.90E-06	2.26E-04	1.97549	0.00099	0.00198
Formaldehyde	1.23E-05	4.02E-04	3.52153	0.00176	0.00352
Hexane	4.60E-06	1.50E-04	1.31699	0.00066	0.00132
Naphthalene	3.00E-07	9.80E-06	0.08589	0.00004	0.00009
PAHs	1.00E-07	3.27E-06	0.02863	0.00001	0.00003
Propylene	0.00053	1.73E-02	151.74063	0.07587	0.15174
Toluene	2.65E-05	8.66E-04	7.58703	0.00379	0.00759
Xylene	1.97E-05	6.44E-04	5.64017	0.00282	0.00564
Total			175.21748	0.08761	0.17522
Notes:					
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors (5/17/01)" natural gas fired external combustion equipment less than 10 MMBtu/hr, available at http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf					
2. Hourly emissions = EF (lb/MMBtu) x 32.683 (MMBtu/hr)					
3. Annual emissions = EF (lb/MMBtu) x 32.683 (MMBtu/hr) x 8,760 (hr/yr)					
4. Total Annual emissions of two 32.683 MMBtu/hr boilers = Annual emissions (lb/yr) x 2					

N-9149-7(19.8 MMBtu/hr natural gas-fired process heater)

HAP	Emission Factor (lb/MMBtu) ⁽¹⁾	Maximum Hourly Emissions (lb/hr) ⁽²⁾	Maximum Annual Emissions (lb/yr) ⁽³⁾	Maximum Annual Emissions (tpy)
Acetaldehyde	3.10E-06	6.14E-05	0.53769	0.00027
Acrolein	2.70E-06	5.35E-05	0.46831	0.00023
Benzene	5.80E-06	1.15E-04	1.00600	0.00050
1,3-Butadiene	n/a	--	--	--
Ethyl benzene	6.90E-06	1.37E-04	1.19679	0.00060
Formaldehyde	1.23E-05	2.44E-04	2.13341	0.00107
Hexane	4.60E-06	9.11E-05	0.79786	0.00040
Naphthalene	3.00E-07	5.94E-06	0.05203	0.00003
PAHs	1.00E-07	1.98E-06	0.01734	0.00001
Propylene	0.00053	1.05E-02	91.92744	0.04596
Toluene	2.65E-05	5.25E-04	4.59637	0.00230
Xylene	1.97E-05	3.90E-04	3.41693	0.00171
Total			106.15018	0.05308
Notes:				
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors (5/17/01)" natural gas fired external combustion equipment less than 10 MMBtu/hr, available at http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf				
2. Hourly emissions = EF (lb/MMBtu) x 19.8 (MMBtu/hr)				
3. Annual emissions = EF (lb/MMBtu) x 19.8 (MMBtu/hr) x 8,760 (hr/yr)				