San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

APR 1 4 2016

Steve Arnoldy
Toma-Tek Inc
2502 N St
Firebaugh, CA 93622

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: C-1243
Project Number: C-1160164

Dear Mr. Arnoldy:

Enclosed for your review and comment is the District's analysis of Toma-Tek Inc's application for an Authority to Construct for the modification of permit unit C-1243-5, to replace the existing 60 MMBtu/hr burner with an 89 MMBtu/hr burner, at 2502 N St, Firebaugh.

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. John Yoshimura of Permit Services at (559) 230-5887.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:JY

Enclosures

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

Seyed Sadredin
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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Replacement Of An Existing 60 MMBtu/hr Burner With An 89 MMBtu/hr Natural Gas-Fired Burner

Facility Name:	Toma-Tek	Date:	April 8, 2016
Mailing Address:	2502 N Street Firebaugh, CA 93622	Engineer:	John Yoshimura
		Lead Engineer:	Joven Refuerzo
Contact Person:	Steve Arnoldy		
Telephone:	(408) 202-8839		
E-Mail:	steve@njfco.com		
Application #:	C-1243-5-1		
Project #:	C-1160164		
Deemed Complete:	February 17, 2016		

I. Proposal

Toma-Tek has requested an Authority to Construct (ATC) permit for the modification of a Temporary Replacement Emissions Unit (TREU), boiler permit unit C-1243-5-0, to replace the existing 60.0 MMBtu/hr natural gas-fired burner with an 89.0 MMBtu/hr natural gas-fired burner equipped with a Selective Catalytic Reduction (SCR) System for NOx emissions control. The facility has also proposed to modify the operating schedule from a TREU to a full-time unit. Since these modifications change the category of the emissions unit, this boiler will be considered a new emissions unit for New Source Review (NSR) requirement purposes.

Pursuant to project C-1152457, permit unit '-5-0 was implemented as a TREU for permit unit C-1243-2, a 99.9 MMBtu/hr boiler. However, upon implementation of the new burner and operating schedule authorized by ATC '-5-1, permit unit '-2 will remain operational.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
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 4301	Fuel Burning Equipment (12/17/92)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
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)

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 2502 N Street, Firebaugh, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Toma-Tek operates five natural gas-fired boilers to produce hot water and steam for its tomato processing and canning operation.

The maximum operating schedule used for Potential to Emit calculations for the proposed unit is 24 hr/day and 218 day/year.

V. Equipment Listing

Pre-Project Equipment Description

C-1243-5-0: 60 MMBTU/HR KEYSTONE MODEL 14M-200 NATURAL GAS-FIRED BOILER SERVING AS A TEMPORARY REPLACEMENT EMISSIONS UNIT (TREU) FOR C-1243-2

ATC Equipment Description

C-1243-5-1: MODIFICATION OF 60 MMBTU/HR KEYSTONE MODEL 14M-200 NATURAL GAS-FIRED BOILER SERVING AS A TEMPORARY REPLACEMENT EMISSIONS UNIT (TREU) FOR C-1243-2: REPLACE THE EXISTING BURNER WITH AN 89.0 MMBTU/HR NATURAL GAS-FIRED TODD COMBUSTION MODEL VARIFLAME LOW-NO_X BURNER, INDUCED FLUE GAS RECIRCULATION (FGR), AND SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM; DESIGNATE AS A PERMANENT BOILER

Post Project Equipment Description

C-1243-5-1: 89.0 MMBTU/HR KEYSTONE MODEL 14M-200 NATURAL GAS-FIRED WATERTUBE BOILER WITH A TODD COMBUSTION MODEL VARIFLAME LOW-NO_X BURNER, INDUCED FLUE GAS RECIRCULATION (FGR), AND SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired boilers include NOx, CO, VOC, PM_{10}, and SOx.

NOx is the major pollutant of concern when burning natural gas. NOx formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NOx) or due to conversion of chemically bound nitrogen in the fuel (fuel NOx). Due to the low fuel nitrogen content of natural gas, nearly all NOx emissions are thermal NOx. Formation of thermal NOx is affected by four

furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

Selective catalytic reduction (SCR) systems selectively reduce NOx emissions by injecting ammonia (NH_3) into the exhaust gas stream upstream of a catalyst. Nitrogen oxides, NH_3, and O_2 react on the surface of the catalyst to form molecular nitrogen (N_2) and H_2O. SCR is capable of over 90 percent NOx reduction. Titanium oxide is the SCR catalyst material most commonly used, though vanadium pentoxide, noble metals, or zeolites are also used. The ideal operating temperature for a conventional SCR catalyst is 600 to 750°F. Exhaust gas temperatures greater than the upper limit (750°F) will cause NOx and NH_3 to pass through the catalyst unreacted. Ammonia slip will be limited to 10 ppmvd @ 3% O_2 for the proposed boiler (per applicant).

Flue gas recirculation (FGR) reduces NOx emissions by recirculating a percentage of the exhaust gas back into the windbox. This reduces the oxygen concentration in the air-fuel mixture and regulates the combustion process, lowering the combustion temperature. The lowered availability of oxygen in conjunction with lowered combustion temperature reduces the formation of NOx.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day;
- Pre-Project annual operation is limited to 180 days/year (current PTO);
- Post Project annual operation will be limited to a maximum of 218 days/year to stay below Major Source requirements (per applicant);
- Startup and shut down operation is limited to not exceed 2 hours each per startup and shut down event. Conservatively assume 1 startup and 1 shutdown each operating day (worst case);
- Ammonia slip is limited to not exceed 10 ppmv @ 3% O_2 (per applicant);
- The unit is fired solely on PUC regulated natural gas;
- Natural gas heating value: 1,000 Btu/scf (District Policy APR 1720);
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F. (40 CFR 60, Appendix B);

B. Emission Factors

Pre-Project Emission Factors (EF1)

Pollutant	Emission Factors		Source
NOx	0.0109 lb-NOx/MMBtu	9 ppmvd NO_X @ 3%O_2	Current PTO
SOx	0.00285 lb-SO_X/MMBtu	---	Current PTO
PM_{10}	0.004 lb-PM10/MMBtu	---	Current PTO
CO	0.1090 lb-CO/MMBtu	147.5 ppmvd CO @ 3% O2	Current PTO
VOC	0.0055 lb-VOC/MMBtu	---	Current PTO

Post Project Emission Factors (EF2)

Emissions factors are converted from ppmvd @ 3% O_2 to lb/MMBtu using the following equation. A sample calculation for NOx is shown below.

EF, lb/MMBtu = ppmv x MW x (1/379.5) ff x [20.95 / (20.95 – O_2%)]

Where:

- ppm is the emission concentration in ppmvd @ 3% O_2
- MW is the molecular weight of the pollutant
- 379.5 is the molar specific volume (scf/lb-mol, at 60 °F)
- ff is the F-factor for natural gas (8,578 scf/MMBtu, at 60 °F)
- O_2 is the stack oxygen content to which the emission concentrations are corrected (3%)

NOx EF, lb/MMBtu = 30 ppmv-NOx x 46 lb-NO_2/lb-mol x (1/379.5 scf/lb-mol) x 8,578 scf/MMBtu x [20.95 / (20.95 – 3.0)]
= 0.036 lb-NOx/MMBtu

And,
MW_{NO2} = 46 lb/lb-mol
MW_{CO} = 28 lb/lb-mol
MW_{NH3} = 17 lb/lb-mol)

The following emissions factors are applicable for both steady state and startup/shutdown operation:

Pollutant	Emission Factors		Source
SOx	0.00285 lb-SO_X/MMBtu	---	District Policy APR 1720
PM_{10}	0.0076 lb-PM10/MMBtu	---	AP-42 (07/98) Table 1.4-1
VOC	0.0055 lb-VOC/MMBtu	---	AP-42 (07/98) Table 1.4-1
NH_3	0.0045 lb-NH_3/MMBtu	10 ppmvd NH_3 @ 3%O_2	Proposed by applicant

Startup and Shutdown

The applicant has proposed the following NOx and CO emission factors for startup and shutdown periods:

Pollutant	Emission Factors Startup and Shutdown		Source
NOx	0.036 lb-NO_X/MMBtu	30 ppmvd NO_X @ 3% O_2	Proposed by applicant
CO	0.295 lb-CO/MMBtu	400 ppmv-CO @ 3% O_2	Proposed by applicant

Steady State
The applicant has proposed the following NOx and CO emission factors for steady state (non-startup or shutdown) operation:

Pollutant	Emission Factors Steady State		Source
NOx	0.0062 lb-NO_X/MMBtu	5 ppmvd NO_X @ 3%O_2	Proposed by applicant
CO	0.074 lb-CO/MMBtu	100 ppmvd CO @ 3%O_2	Proposed by applicant

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Annual Heat Input = 60 MMBtu/hr x 24 hr/day x 180 day/year = 259,200 MMBtu/year

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO_X	0.0109	60	24	15.7
SO_X	0.00285	60	24	4.1
PM_{10}	0.0040	60	24	5.8
CO	0.109	60	24	157.0
VOC	0.0055	60	24	7.9

Pollutant	Annual PE1		
	EF1 (lb/MMBtu)	Heat Input (MMBtu/year)	Annual PE1 (lb/year)
NO_X	0.0109	259,200	2,825
SO_X	0.00285	259,200	739
PM_{10}	0.0040	259,200	1,037
CO	0.109	259,200	28,253
VOC	0.0055	259,200	1,426

2. Post Project Potential to Emit (PE2)

Daily Emissions

NOx Emissions:
The highest NOx emission rate occurs when operating the boiler in startup and shutdown modes for the maximum permitted time during each day. Startup and

shutdown emissions are limited to a combined 4.0 hr/day and an EF of 0.036 lb-NOx/MMBtu. Therefore, daily startup and shutdown emissions will be equal to:

Startup/Shutdown NOx = 0.036 lb-NO_X/MMBtu x 89.0 MMBtu/hr x 4.0 hr/day
= 12.8 lb-NOx/day

Daily steady-state NOx emissions for the remaining 20 hours of the day will be based on the 89.0 MMBtu/hr boiler rating and an emissions factor of 0.0062 lb-NOx/MMBtu.

Steady State NOx = 0.0062 lb/MMBtu x 89.0 MMBtu/hr x 20 hr/day
= 11.0 lb-NOx/day

Total Daily Emissions = 12.8 lb-NOx/day + 11.0 lb-NOx/day
= 23.8 lb-NOx/day

Annual NOx emissions are calculated based on 218 days per year operation.

Annual PE2, lb-NOx/year = 23.8 lb-NOx/day × 218 day/year
= 5,188 lb-NOx/year

CO Emissions:
The highest CO emission rate occurs when operating the boiler in startup and shutdown modes for the maximum permitted time during each day. Startup and shutdown emissions are limited to a combined 4.0 hr/day and an EF of 0.295 lb-CO/MMBtu. Therefore, daily startup and shutdown emissions will be equal to:

Startup/Shutdown CO = 0.295 lb-CO/MMBtu x 89.0 MMBtu/hr x 4.0 hr/day
= 105.0 lb-CO/day

Daily steady-state CO emissions for the remaining 20 hours of the day will be based on the 89.0 MMBtu/hr boiler rating and an emissions factor of 0.074 lb-CO/MMBtu.

Steady State NOx = 0.074 lb/MMBtu x 89.0 MMBtu/hr x 20 hr/day
= 131.7 lb-CO/day

Total Daily Emissions = 105.0 lb-CO/day + 131.7 lb-CO/day
= 236.7 lb-CO/day

Annual CO emissions are calculated based on 218 days per year operation.

Annual PE2, lb-CO/year = 236.7 lb-CO/day × 218 day/year
= 51,601 lb-CO/year

Ammonia (NH_3) Emissions from SCR:
The proposed daily NH_3 emissions are calculated as follows:

Daily PE2, lb-NH_3/day = 0.0045 lb-NH_3/MMBtu × 89.0 MMBtu/hr x 24 hour/day
= 9.6 lb-NH_3/day

Annual NH_3 emissions are calculated based on 218 days per year operation.

Annual PE2, lb- NH_3/year = 9.6 lb-NH_3/day × 218 day/year
= 2,093 lb-NH_3/year

SOx, PM_{10}, and VOC Emissions:
Example shows calculation of SOx potential to emit:

Daily PE SOx = 0.00285 lb-SOx/MMBtu × 89.0 MMBtu/hr x 24 hr/day

Post Project Potential to Emit (PE2) SO_X, PM_{10}, CO and VOC		
Pollutant	Emissions Factors (lb/MMBtu)	Daily PE2 (lb/day)
SOx	0.00285	6.1
PM_{10}	0.0076	16.2
VOC	0.0055	11.7

Annual SOx, PM_{10}, and VOC emissions are calculated based on 218 days/year operation using the following equation and shown in the table below.

Annual PE = Daily PE2, lb/day × 218 day/year

Post Project Potential to Emit (PE2) SO_X, PM_{10}, CO and VOC		
Pollutant	Daily PE2 (lb/day)	Annual PE2 (lb/year)
SOx	6.1	1,330
PM_{10}	16.2	3,532
VOC	11.7	2,551

Total daily and annual PE2 are summarized in the following table:

Daily and Annual PE2		
Pollutant	Daily PE2 (lb/day)	Annual PE2 (lb/year)
NOx	23.8	5,188
SOx	6.1	1,330
PM_{10}	16.2	3,532
CO	236.7	51,601
VOC	11.7	2,551
NH_3	9.6	2,093

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. Please see Appendix F for SSPE1 Calculations.

SSPE1(lb/year)						
Permit Unit	NOx	SOx	PM_{10}	CO	VOC	NH_3
C-1243-1-5*	12,112	2,309	3,241	53,066	3,403	0
C-1243-2-5*						
C-1243-3-5*						
C-1243-4-3	2,694	815	2,861	10,586	4,577	629
C-1243-5-0	2,825	739	1,037	28,253	1,426	0
SSPE1	**17,631**	**3,863**	**7,139**	**91,905**	**9,406**	**629**

*Emissions combined by a SLC established in Project C-1080280.

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

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

SSPE2(lb/year)						
Permit Unit	NOx	SOx	PM_{10}	CO	VOC	NH_3
C-1243-1-5	12,112	2,309	3,241	53,066	3,403	0
C-1243-2-5						
C-1243-3-5						
C-1243-4-3	2,694	815	2,861	10,586	4,577	629
C-1243-5-1	5,188	1,330	3,532	51,601	2,551	2,093
SSPE2	**19,994**	**4,454**	**9,634**	**115,253**	**10,531**	**2,722**

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	17,631	3,863	7,139	7,139	91,905	9,406
SSPE2	19,994	4,454	9,634	9,634	115,253	10,531
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

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

Rule 2410 Major Source Determination:
The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	8.8	4.7	1.9	46.0	3.6	3.6
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	No	No	No	No	No	No

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

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

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

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

7. SB 288 Major Modification

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

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

8. Federal Major Modification

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

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Federal Major Modification determination.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM_{10} (140,000 lb/year), it is not a major source for PM2.5 (200,000 lb/year).

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

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

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

I. Project Emissions Increase - New Major Source Determination

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

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

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	2.6	1.3	0.7	25.8	1.8	1.8
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

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

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install a new natural gas-fired boiler with a PE greater than 2 lb/day for NO_X, SO_X, PM_{10}, CO, and VOC. BACT is triggered for NO_X, SO_X, PM_{10}, and VOC only since the PEs are greater than 2 lb/day. However BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

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

2. BACT Guideline

Please note that BACT Guideline 1.1.2 Boiler: > 20.0 MMBtu/hr, Natural gas fired, base-loaded or with small load swings has been rescinded. Therefore, a project specific BACT analysis is included in Appendix D.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule. Pursuant to the attached Top-Down BACT Analysis (see Appendix D), BACT has been satisfied with the following:

NO_X: 5 ppmvd @ 3% O_2
SO_X: PUC quality natural gas or propane fuel
PM10: PUC quality natural gas or propane fuel
VOC: PUC quality natural gas or propane fuel

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	19,994	4,454	9,634	115,253	10,531
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, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
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.

b. PE > 100 lb/day

The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NOx	23.8	100 lb/day	No
SOx	6.1	100 lb/day	No
PM_{10}	16.2	100 lb/day	No
CO	236.7	100 lb/day	Yes
VOC	11.7	100 lb/day	No
NH_3	9.6	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	17,631	19,994	20,000 lb/year	No
SO_X	3,863	4,454	54,750 lb/year	No
PM_{10}	7,139	9,634	29,200 lb/year	No
CO	91,905	115,253	200,000 lb/year	No
VOC	9,406	10,531	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	19,994	17,631	2,363	20,000 lb/year	No
SO_x	4,454	3,863	591	20,000 lb/year	No
PM_{10}	9,634	7,139	2,495	20,000 lb/year	No
CO	115,253	91,905	23,348	20,000 lb/year	Yes
VOC	10,531	9,406	1,125	20,000 lb/year	No

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

e. Title V Significant Permit Modification

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

2. Public Notice Action

As discussed above, public noticing is required for this project for CO emissions in excess of 100 lb/day and a SSIPE over 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

- Except during startup or shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 5 ppmvd NO_X @ 3% O_2 or 0.0062 lb-NO_X/MMBtu, 0.00285 lb-SO_X/MMBtu, 0.0076 lb-PM10/MMBtu, 100 ppmvd CO @ 3% O_2 or 0.074 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

- During startup or shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 30 ppmvd NO_X @ 3% O_2 or 0.036 lb-NO_X/MMBtu, 0.00285 lb-SO_X/MMBtu, 0.0076 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O_2 or 0.295 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320]
- The ammonia (NH3) emissions from the exhaust of the SCR system serving this boiler shall not exceed 10 ppmvd @ 3% O2. [District Rule 2201]
- {2964} The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

E. Compliance Assurance

1. Source Testing

This unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, 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 MMBtu/hr.* Source testing requirements will be discussed in the compliance review section of this evaluation.

2. Monitoring

The applicant has proposed to utilizing pre-approved alternate monitoring plan "A" (Periodic Monitoring NOx, CO, and O_2 Emissions Concentrations) to meet the requirements of District Rule 4320. Monitoring requirements, in accordance with Rules 4305, 4306, and 4320 will be discussed in Section VIII of this evaluation. There are no additional monitoring requirements to ensure compliance with Rule 2201.

3. Recordkeeping

As required by District Rules 4305, 4306 and 4320, the unit is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules will be discussed in the compliance review section of this evaluation.

The following condition will be included on the ATC to ensure compliance with the start-up and shutdown requirements of Rule 2201:

- {3740} Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

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

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

The proposed location is in a non-attainment area for the state's PM_{10} as well as federal and state $PM_{2.5}$ thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM_{10} and $PM_{2.5}$.

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

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

Rule 4001 New Source Performance Standards (NSPS)

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. 40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (constructed, modified or, reconstructed after June 9, 1989)

The boiler in this project has a maximum input heat rating of 89.0 MMBtu/hr and is being constructed, as defined in 40 CFR Part 60, Subpart A, Section 14, with this project. Since the unit is being constructed after June 9, 1989, the boiler is subject to the requirements of this subpart pursuant to §60.40c(a).

§60.42c – Standard for sulfur Dioxide (SO_2):
The requirements of this paragraph are applicable to units which combust only coal or combusts coal in combination with other fuels. The unit in this project combusts neither coal nor coal in combination with other fuels; therefore, the requirements of this paragraph are not applicable.

§60.43c – Standard for particulate matter (PM):
The requirements of this paragraph are applicable to units which combust coal or combusts mixtures of coal with other fuels. The unit in this project combusts neither coal nor any mixtures of coal with other fuels; therefore, the requirements of this paragraph are not applicable.

§60.44c – Compliance and performance test methods and procedures for sulfur dioxide:
This paragraph outlines the compliance and performance test methods and procedures for sulfur dioxide for units that are subject to an SO_2 emission standard from §60.42c. The unit in this project is not subject to a SO_2 emission standard from this subpart; therefore, SO_2 testing is not required.

§60.45c – Compliance and performance test methods and procedures for particulate matter:
This paragraph outlines the compliance and performance test methods and procedures for particulate matter for units subject to a PM emission standard from §60.43c. The unit in this project is not subject to a PM emission standard from this subpart; therefore, PM testing is not required.

§60.46c – Emission monitoring for sulfur dioxide:
This paragraph outlines the emission monitoring requirements for sulfur dioxide for units that are subject to an SO_2 emission standard from §60.42c. The unit in this project is not subject to a SO_2 emission standard from this subpart; therefore, SO_2 monitoring is not required.

§60.47c – Emission monitoring for particulate matter:
This paragraph outlines the emission monitoring requirements for particulate matter for units that are subject to a PM emission standard from §60.43c. The unit in this project is not subject to a PM emission standard from this subpart; therefore, PM monitoring is not 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 the unit's equipment description. No additional conditions are required to ensure 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 unit is 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 for this unit; therefore, one will not be required.

(4) Notification if an emerging technology will be used for controlling SO_2 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 unit will not be equipped with an emerging technology used to control SO_2 emissions.

§60.48c(b) through (e) are applicable to units subject to the SO2 and PM standards of §60.42c and §60.43c. Since the unit in this project is not subject to §60.42c or §60.43c, the requirements of §60.48(b) through (e) are not applicable.

§60.48c(f) outlines the reporting and recordkeeping requirements for fuel supplier certifications, as required by §60.42c and §60.44c. the unit in this project is not subject to either §60.42c or §60.44c; therefore, the requirements of this paragraph are not applicable.

§60.48c(g) requires the owner or operator to record and maintain records of the daily amount of fuel combusted except as provided in paragraphs §60.48c(g)(2) or §60.48c(g)(3). §60.48c(g)(2) allows the owner/operator to keep monthly records for units which combust only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO_2 standard, fuels not subject to an emission standard (excluding opacity), or a mixture of fuels. The unit in this project is not subject to an emission standard of this subpart; therefore, the owner/operator may keep monthly records of the amount of fuel combusted. The following condition will be included on the permit to ensure compliance.

- Permittee shall maintain records of the monthly heat input (MMBtu) for this unit. [District Rule 4001 and 40 CFR Part 60, Subpart Dc]

§60.48c(h) outlines a requirement to calculate the annual capacity factor for each fuel combusted in units subject to a federally enforceable requirement limiting the annual capacity factor. The unit in this project is not subject to an annual capacity factor; therefore, the requirements of this paragraph are not applicable.

§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 Rule 4320 requires that records be kept for five years, which is more stringent and will satisfy the recordkeeping requirements of §60.48c(i). The following condition will be included on the permit to ensure compliance with this subsection.

- {modified 2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4001, 4305, 4306 and 4320 and 40 CFR Part 60, Subpart Dc]

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

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to industrial-commercial-institutional steam generators/boiler operations.

Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity. The following condition will be included on the permit to assure compliance with this Rule. No further discussion is required.

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

Rule 4102 Nuisance

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

- {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 or equal to one. According to the Technical Services Memo for this project (Appendix E), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

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 prioritization score is less than 1.0. In accordance with the District's Risk Management Policy, the project is approved without T-BACT. To ensure that human health risks will not exceed District allowable levels, the following condition will be placed on the ATC:

- The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]

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.

Natural Gas
F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 °F, equivalent to:

$$Corrected\ F-factor = \left(\frac{8{,}710 dscf}{MMBtu}\right) \times \left(\frac{60^{o}F + 459.6}{68^{o}F + 459.6}\right) = 8{,}578 \frac{dscf}{MMBtu}\ \ at\ 60^{o}F$$

PM_{10} Emission Factor: 0.014 lb-PM_{10}/MMBtu
Percentage of PM as PM_{10} in Exhaust: 100%
Exhaust Oxygen (O_2) Concentration: 3%

Excess Air Correction to F Factor = $\frac{20.95}{(20.95 - 3)} = 1.17$

$$GL = \left(\frac{0.014\ lb-PM}{MMBtu} \times \frac{7{,}000\ grain}{lb-PM}\right) / \left(\frac{8{,}578\ ft^3}{MMBtu} \times 1.17\right)$$

$$GL = 0.0098\ grain/dscf < 0.1\ grain/dscf$$

Compliance with District Rule 4201 requirements is expected. The following condition will be included on the permit to ensure continued compliance:

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

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO_2, NO_2, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

District Rule 4301 Limits			
Pollutant	NO_2	Total PM	SO_2
ATC # C-1243-5-1 (lb/hr)	0.99	0.68	0.25
Rule Limit (lb/hr)	140	10	200

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

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

The purpose of this rule is to provide an equipment tuning procedure for boilers, steam generators, and process heaters to control visible emissions and emissions of both nitrogen oxides (NOx) and carbon monoxide (CO). This rule is applicable to any boiler, steam generator, or process heater that requires tuning pursuant to District regulations or permit conditions.

Pursuant to District Rule 4320, the facility is not required to tune the boiler in this project since the facility will follow a District approved Alternate Monitoring scheme where the applicable

emission limits are periodically monitored; therefore, the requirements of this rule are not applicable.

Rule 4305 Boilers, Steam Generators, and Process Heaters - Phase 2

Pursuant to Section 2.0 of District Rule 4305, boiler unit C-1243-5-1 is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2.* In addition, this boiler is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3.*

Since the required emissions limits in 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. Compliance with District Rule 4320 is demonstrated below. No further discussion is required.

Rule 4306 Boilers, Steam Generators, and Process Heaters - Phase 3

The unit is natural gas-fired with a maximum heat input of 89.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3.*

In addition, the unit 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 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 4320 Advance Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr

The boiler in this project is subject to the provisions of District Rule 4320 pursuant to Section 2.0 of District Rule 4320.

Section 5.1, compliance options for this Rule
This section specifies the following compliance options for this Rule:

5.1.1 Operate the unit to comply with the emission limits specified in Sections 5.2 and 5.4; or
5.1.2 Pay an annual emissions fee to the District as specified in Section 5.3 and comply with the control requirements specified in Section 5.4; or
5.1.3 Comply with the applicable Low-use Unit requirements of Section 5.5.

The unit in this project is currently complying with the requirements of Section 5.1.2 and the applicant has proposed to continue to comply with Section 5.1.2.

Section 5.2, NOx and CO Emissions Limits
Section 5.2 requires that except for unit subject to Sections 5.3, NO_X and carbon monoxide (CO) emissions shall not exceed the limits specified in the following table. All ppmv emission

limits specified in this section are referenced at dry stack gas conditions and 3.00 percent by volume stack gas oxygen.

With a maximum heat input of 89.0 MMBtu/hr each, the applicable emission limit category is listed in Section 5.2, Table 1, Category B, from District Rule 4320.

Rule 4306 Emissions Limits		
Category	**Operated on gaseous fuel**	
	NO_X Limit	**CO Limit**
B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through G	a) Standard Schedule: 7 ppmv or 0.008 lb/MMBtu	400 ppmv
	b) Enhanced Schedule: 5 ppmv or 0.0062 lb/MMBtu	

For this unit:

the proposed NO_x emission factor is 5 ppmvd @ 3% O_2 (0.0062 lb/MMBtu), and
the proposed CO emission factor is 100 ppmvd @ 3% O_2 (0.074 lb/MMBtu)

Therefore, compliance with Section 5.2 of District Rule 4320 is expected.

A condition listing the emissions limits will be listed on permits as shown in the DEL section above.

Section 5.3, Annual Fee Calculation

Annual Fees are required if the unit will not be meeting the emission limits in Section 5.2 of this rule. Since the proposed steam generator will meet the emissions limits of Section 5.2, the annual fee requirements are not applicable.

Section 5.4, Particulate Matter Control Requirements

Section 5.4.1 of this rule requires the operator to comply with one of the following requirements for each boiler:

1. Fire the boiler exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;
2. Limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet;
3. Install and properly operate an emission control system that reduces SO_2 emissions by at least 95% by weight; or limit exhaust SO_2 to less than or equal to 9 ppmv corrected to 3.0% O_2;

The facility has proposed that the boiler be fired exclusively on PUC-quality natural gas. Therefore, this requirement has been satisfied.

Section 5.5, Low Use

The unit's annual heat input will exceed the 1.8 billion Btu heat input per calendar year criteria limit addressed by this section. Since the unit is not subject to Section 5.5, the requirements of this section do not apply to the unit.

Section 5.6, Startup and Shutdown Provisions

Section 5.6 states that on and after the full compliance deadline in Section 5.0, the applicable emission limits of Sections 5.2 Table 1 and 5.5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5

This section specifies the following compliance options for this Rule:

5.6.1 The duration of each start-up or each shutdown shall not exceed two hours, except as provided in Section 5.6.3;
5.6.2 The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown;
5.6.3 Notwithstanding the requirement of Section 5.6.1, an operator may submit an application for a Permit to Operate condition to allow more than two hours for each start-up or each shutdown provided the operator meets all of the conditions specified in Sections 5.6.3.1 through 5.6.3.3.

According to the applicant, each startup and shutdown period will not exceed two hours. The following condition will be placed on the ATC to ensure compliance:

- Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4306, and 4320]
- {3740} Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201]

Section 5.7, Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 emissions limits shall either install and maintain Continuous Emission Monitoring (CEM) equipment for NO_X, CO and O_2, or install and maintain APCO-approved alternate monitoring.

The applicant has proposed to use the pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO_X, CO, NH_3, and O_2 exhaust concentrations, shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer; furthermore, Draeger tubes or equivalent shall be used to measure the ammonia slip in the exhaust. The following conditions will be listed on the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- {4319} The permittee shall monitor and record the stack concentration of NOx, CO, NH3 and O2 at least once during each month in which source testing is not performed. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer that meets

District specifications. NH3 monitoring shall be conducted utilizing Draeger tubes or a District approved equivalent method. 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 it has been performed within the last month. [District Rules 4305, 4306 and 4320]

- {4320} If the NOx, CO or NH3 concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, exceed the permitted levels the permittee shall return the emissions to compliant levels as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continue to show emission limit violations after 1 hour of operation following 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 that is subject to enforcement action has occurred. 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 the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]
- {4321} All NOx, CO, O2 and ammonia emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, CO and O2 analyzer as well as the NH3 emission monitoring equipment shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer 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 readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]
- {4322} Ammonia emission readings shall be conducted at the time the NOx, CO and O2 readings are taken. The readings shall be converted to ppmvd @ 3% O2. [District Rules 4305, 4306 and 4320]
- {4323} The permittee shall maintain records of: (1) the date and time of NOx, CO, NH3 and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, CO and NH3 concentrations corrected to 3% O2, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH3 emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 4305, 4306 and 4320]

Since this unit is not subject to the requirements listed in Section 5.5.1 or 5.5.2, it is not subject to Section 5.7.2 and 5.7.3 requirements.

Section 5.7.4 allows units operated at seasonal sources and subject to 40 CFR 60 Subpart DB to install a parametric monitoring system in lieu of a CEMS. The proposed boilers are not operated at a seasonal source. Therefore, this unit is not subject to 5.7.4 requirements.

Section 5.7.6 outlines requirements for monitoring SOx emissions. The following condition will be listed on the permits in order to ensure compliance with the requirements:

- {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]

Section 5.8, Compliance Determination

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 5.1. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling). Therefore, the following condition will be listed on the permits as follows:

- {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]

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. Therefore, the following condition will be listed on the permits as follows:

- {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]

Section 5.8.4 requires that for emissions monitoring using a portable NO_X analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings 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.

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 (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following condition will be listed on the permits as follows:

- {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]

Section 6.1, Recordkeeping

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.

A condition will be listed on the permits as follows:

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4001, 4305, 4306 and 4320 and 40 CFR Part 60, subpart Dc]

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. Since the unit is not subject to the requirements listed in Section 5.5, it is not subject to Section 6.1.2 requirements.

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. The unit is not subject to Section 6.1.3. Therefore, the requirements of this section do not apply to this unit.

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. The facility has not proposed the use of startup and shutdown provisions, thus, the requirements of this section do not apply to these unit.

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. The facility has not proposed the use of curtailment fuels; therefore, the requirements of this section do not apply to these unit.

Section 6.2, Test Methods

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

Pollutant	Units	Test Method Required
NO_X	ppmv	EPA Method 7E or ARB Method 100
NO_X	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O_2	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

The following conditions will be listed on the permit as follows:

- {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]
- {3278} Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081]

Section 6.3, Compliance Testing

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.2 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.
The following conditions will be listed on the permits as follows:

- Source testing to measure NOx, CO, and NH_3 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]
- Source testing to measure NOx, CO, and NH_3 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]

Section 6.4, Emission Control Plan (ECP)

Section 6.4.1 requires that the operator of any unit shall submit to the APCO for approval an Emissions Control Plan according to the compliance schedule in Section 7.0 of District Rule 4320.

The proposed unit will be in compliance with the emissions limits listed in table 1, Section 5.2 of this rule and with periodic monitoring and source testing requirements. Therefore, this current application for the new proposed unit satisfies the requirements of the Emission Control Plan, as listed in Section 6.4 of District Rule 4320. No further discussion is required.

Section 7.0, Compliance Schedule

Section 7.0 indicates that an operator of boilers must be in compliance with both the ATC deadline and compliance deadlines listed in Table 1 of Section 5.2.

The unit will be in compliance with the emissions limits listed in table 1, Section 5.2 of this rule, and periodic monitoring and source testing as required by District Rule 4320. Therefore, requirements of the compliance schedule, as listed in Section 7.1 of District Rule 4320, are satisfied. No further discussion is required.

Conclusion

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule, see attached draft ATC. Therefore, compliance with District Rule 4320 requirements is expected.

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

This rule applies to boilers, steam generators, and process heaters at NOx Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. As demonstrated in Section VII.C.5, this facility is not a major stationary source; therefore, the provisions of this rule are not applicable to unit C-1243-5-1.

Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2% by volume calculated as SO_2, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume } SO_2 = \frac{n\,RT}{P}$$

With:

N = moles SO_2

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

$$\text{R (Universal Gas Constant)} = \frac{10.73\,\text{psi}\cdot\text{ft}^3}{\text{lb}\cdot\text{mol}\cdot{}^\circ\text{R}}$$

$$\frac{0.00285\,lb-SOx}{MMBtu}\times\frac{MMBtu}{8{,}578\,dscf}\times\frac{1\,lb\cdot mol}{64\,lb}\times\frac{10.73\,psi\cdot ft^3}{lb\cdot mol\cdot{}^\circ R}\times\frac{520{}^\circ R}{14.7\,psi}\times\frac{1{,}000{,}000\cdot parts}{million}=1.97\,\frac{parts}{million}$$

$$SulfurConcentration = 1.97\,\frac{parts}{million} < 2{,}000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected. The following condition will be included on the permit.

- The unit shall only be fired on PUC-quality natural gas. [District Rules 2201, 4320 and 4801]

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

District is a Lead Agency & Facility is Subject to Cap-and-Trade
It is determined that no other agency has prepared or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

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

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

increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

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

Industries covered by Cap-and-Trade are identified in the regulation under section 95811, Covered Entities:

1. Group 1: Large industrial facilities
   These types of facilities are subject to Cap and Trade, and the specific companies covered are listed at http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm, Section 95811 (a), under the "Publically Available Market Information" section (list maintained by the California Air Resources Board).

2. Group 2: Electricity generation facilities located in California, or electricity importers
   These types of facilities are subject to Cap and Trade (section 95811, b).

3. Group 3: Suppliers of Natural Gas, Suppliers of Reformulated Gasoline Blendstock for Oxygenate Blending and Distillate Fuel Oil, Suppliers of Liquefied Petroleum Gas, and Suppliers of Blended Fuels
   These entities are subject to Cap and Trade compliance obligations which must cover all fuels (except jet fuels) identified in section 95811 (c) through (f) of the Cap-and-Trade regulation delivered to end users in California, less the fuel delivered to covered entities (group 1 above).

This facility is subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC C-1243-5-1 subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-1243-5-1	3020-02-H	89.0 MMBtu/hr boiler	$1,080.00

Appendixes

A: Draft ATC
B: Current PTO
C: BACT Guideline
D: BACT Analysis
E: HRA Summary
F: SSPE1 Calculations
G: Quarterly Net Emissions Change
H: Emission Profile

APPENDIX A
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-1243-5-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: TOMA-TEK INC
MAILING ADDRESS: PO BOX 30
VANCOUVER, WA 98666

LOCATION: 2502 "N" ST
FIREBAUGH, CA 93622

EQUIPMENT DESCRIPTION:
MODIFICATION OF 60 MMBTU/HR KEYSTONE MODEL 14M-200 NATURAL GAS-FIRED BOILER SERVING AS A TEMPORARY REPLACEMENT EMISSIONS UNIT (TREU) FOR C-1243-2: REPLACE THE EXISTING BURNER WITH AN 89.0 MMBTU/HR NATURAL GAS-FIRED TODD COMBUSTION MODEL VARIFLAME LOW-NOX BURNER, INDUCED FLUE GAS RECIRCULATION (FGR), AND SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM; DESIGNATE AS A PERMANENT BOILER

CONDITIONS

1. {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]
2. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhand, or any other obstruction. [District Rule 4102]
5. Duration of startup and shutdown shall not exceed two hours each per occurrence and, combined, shall not exceed 4 hours per day. During startup or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of startup and shutdown periods. [District Rules 2201, 4305, 4306, and 4320]
6. Except during startup or shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 5 ppmvd NOx @ 3% O2 or 0.0062 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 100 ppmvd CO @ 3% O2 or 0.074 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

C-1243-5-1 : Mar 31 2016 2:37PM – YOSHIMUJ : Joint Inspection NOT Required

7. During startup or shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O2 or 0.295 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

8. The ammonia (NH3) emissions from the exhaust of the SCR system serving this boiler shall not exceed 10 ppmvd @ 3% O2 [District Rule 2201]

9. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201, 4320, and 4801]

10. {3740} Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201]

11. Permittee shall maintain records of the monthly heat input (MMBtu) for this unit. [District Rule 4001 and 40 CFR Part 60, Subpart Dc]

12. {4319} The permittee shall monitor and record the stack concentration of NOx, CO, NH3 and O2 at least once during each month in which source testing is not performed. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH3 monitoring shall be conducted utilizing Draeger tubes or a District approved equivalent method. 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 it has been performed within the last month. [District Rules 4305, 4306 and 4320]

13. {4320} If the NOx, CO or NH3 concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, exceed the permitted levels the permittee shall return the emissions to compliant levels as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continue to show emission limit violations after 1 hour of operation following 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 that is subject to enforcement action has occurred. 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 the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]

14. {4321} All NOx, CO, O2 and ammonia emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, CO and O2 analyzer as well as the NH3 emission monitoring equipment shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer 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 readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]

15. {4322} Ammonia emission readings shall be conducted at the time the NOx, CO and O2 readings are taken. The readings shall be converted to ppmvd @ 3% O2. [District Rules 4305, 4306 and 4320]

16. {4323} The permittee shall maintain records of: (1) the date and time of NOx, CO, NH3 and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, CO and NH3 concentrations corrected to 3% O2, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH3 emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 4305, 4306 and 4320]

17. {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]

18. {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]

19. {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]

20. {4347} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

21. {4348} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]

22. {3278} Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081]

23. {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]

24. {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]

25. {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]

26. Source testing to measure NOx, CO, and NH3 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]

27. Source testing to measure NOx, CO, and NH3 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]

28. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4001, 4305, 4306 and 4320 and 40 CFR Part 60, Subpart Dc]

APPENDIX B
Current PTO

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-1243-5-0 **EXPIRATION DATE:** 06/30/2018

EQUIPMENT DESCRIPTION:
60 MMBTU/HR KEYSTONE MODEL 14M-200 NATURAL GAS-FIRED BOILER SERVING AS A TEMPORARY REPLACEMENT EMISSIONS UNIT (TREU) FOR C-1243-2

PERMIT UNIT REQUIREMENTS

1. This unit shall only be used to temporarily replace an existing unit that is shut down for maintenance or repair, and may only be used in this capacity if it meets the criteria set forth for a TREU in Rule 2201, Sections 3.41.1 through 3.41.3. [District Rule 2201]
2. This unit shall not be located at this stationary source for more than 180 days in any 12 month period. The time spent at a maintenance or storage facility is not considered time located at the stationary source. [District Rule 2201]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. 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]
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201]
7. Emissions from the natural gas-fired boiler shall not exceed any of the following limits: 9 ppmvd-NOx @ 3% O2 (0.0109 lb/MMBtu), 0.00285 lb-SOx/MMBtu, 0.004 lb-PM10/MMBtu, 147.5 ppmvd-CO @ 3% O2 (0.1090 lb-CO/MMBtu), and 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
8. This unit is subject to all alternate monitoring and related recordkeeping requirements as the unit that is being replaced. [District Rules 2201, 4305, 4306 and 4320]
9. The operator shall maintain records of the specific equipment that this unit replaces, and of the dates and location of its operation. Operator shall maintain a record of each individual period of time and of the total time that this unit is located at this stationary source. [District Rule 2201]

APPENDIX C
BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.1.2*

Emissions Unit: Boilers/Steam Generators **Industry Type:** Any
Equipment Rating: Greater than 20 MMBtu/hr **Last Update:** September 21, 2015

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
NOx	5 ppmvd @ 3% O2		
SOx	PUC quality natural gas or propane fuel		
PM10	PUC quality natural gas or propane fuel		
CO	50 ppmvd CO @ 3% O_2 (fire tube units); 100 ppmvd CO @ 3% O2 (water tube units)		
VOC	PUC quality natural gas or propane fuel		

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 - Permit Specific BACT Determinations on Next Page(s)**

APPENDIX D
BACT Analysis

Top Down BACT Analysis for the Boiler

1. BACT Analysis for NO_X Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2016, identifies for achieved in practice BACT for NOx emissions from boilers ≥ 20 MMBtu/hr as follows:

1) 5 ppmvd @ 3% O_2 with SCR – Achieved-in-Practice

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) 5 ppmvd @ 3% O_2 with SCR – Achieved-in-Practice

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_X emissions from the boiler is a NO_X limit of 5 ppmvd @ 3% O_2. The applicant has proposed to install a boiler with a NOx limit of 5 ppmvd @ 3% O2; therefore BACT for NOx emissions is satisfied.

2. BACT Analysis for SO_X Emissions:

Oxides of sulfur (SO_X) emissions occur from the combustion of the sulfur, which is present in the fuel.

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2016, identifies for achieved in practice BACT for SOx emissions from boilers ≥ 20 MMBtu/hr as follows:

1) PUC-quality natural gas fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) PUC-quality natural gas fuel

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for SO_X emissions is PUC-quality natural gas fuel. The applicant has proposed to install a boiler fired on gaseous fuel; therefore BACT for SOx emissions is satisfied.

3. BACT Analysis for PM_{10} Emissions:

Particulate matter (PM_{10}) emissions result from the incomplete combustion of various elements in the fuel.

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2016, identifies for achieved in practice BACT for PM_{10} emissions from boilers ≥ 20 MMBtu/hr as follows:

1) PUC-quality natural gas fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) PUC-quality natural gas fuel

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for PM10 emissions is PUC-quality natural gas fuel. The applicant has proposed to install a boiler fired on gaseous fuel; therefore BACT for PM_{10} emissions is satisfied.

4. BACT Analysis for VOC Emissions:

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the fuel.

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2016, identifies for achieved in practice BACT for VOC emissions from boilers ≥ 20 MMBtu/hr as follows:

1) PUC-quality natural gas fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) PUC-quality natural gas fuel

d. Step 4 - Cost effectiveness analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for VOC emissions is PUC-quality natural gas fuel. The applicant has proposed to install a boiler fired on gaseous fuel; therefore BACT for VOC emissions is satisfied.

APPENDIX E
HRA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review
REVISED

To:	Johnathan Yoshimura – Permit Services
From:	Cheryl Lawler – Technical Services
Date:	March 23, 2016
Facility Name:	Toma-Tek, Inc.
Location:	2502 N Street, Firebaugh
Application #(s):	C-1243-5-1
Project #:	C-1160164

A. RMR SUMMARY

RMR Summary			
Categories	**Natural Gas Boiler (Unit 5-1)**	**Project Totals**	**Facility Totals**
Prioritization Score	0.00[1]	0.00	0.18
Acute Hazard Index	N/A	N/A	N/A
Chronic Hazard Index	N/A	N/A	N/A
Maximum Individual Cancer Risk	N/A	N/A	N/A
T-BACT Required?	**No**		
Special Permit Requirements?	**Yes**		

[1]The project passed on prioritization with a score of less than 1.0; 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:

Unit 5-1

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.

B. RMR REPORT

I. Project Description

Technical Services received a request on March 22, 2016, to revise an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for the installation of an 89.0 MMBtu/hr natural gas boiler. The project was re-run because of revised Ammonia emission rates calculated and provided by the processing engineer. None of the calculations or parameters changed for the AAQA; therefore, no further analysis was required. Only the RMR portion of this project was re-run.

II. Analysis

Toxic emissions for this project were calculated using 2001 Ventura County Air Pollution Control District emission factors for natural gas fired external combustion and revised Ammonia emission rates were provided by the processing engineer, which 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 project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for this project 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 Unit 5-1			
Natural Gas Process Rates (mmscf)	0.089 hr 465.65 yr	**Ammonia Emission Rates (lbs)**	0.4 hr 2095 yr
Closest Receptor (m)	1609		

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

Unit #	**NO_x (Lbs.)**		**SO_x (Lbs.)**		**CO (Lbs.)**		**PM_{10} (Lbs.)**	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
5-1	3.20	5,188	0.25	1,330	26.26	51,601	0.68	3,532

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Natural Gas Boiler	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass[1]	X	X	X	Pass
SO_x	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[2]	Pass[2]
$PM_{2.5}$	X	X	X	Pass[2]	Pass[2]

*Results were taken from the attached PSD spreadsheet.
[1]The 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.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

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. Revised RMR Request Email
B. Prioritization
C. Facility Summary

APPENDIX F
SSPE1 Calculations

Permit Unit C-1243-1-2, '-2-5, and '-3-5

Emission Factors

For this unit, operations will be divided into start-up and shutdown periods and steady stated operation periods. Emission factors for each of these modes of operation are presented in the tables below:

Pollutant	Start-up and Shutdown Emission Factors				Source
NO_X	35.9 lb-NO_X/MMscf	0.0359 lb-NO_X/MMBtu	30 ppmvd NO_X (@ 3%O2)		Current Permit
SO_X	2.85 lb-SO_X/MMscf	0.00285 lb-SO_X/MMBtu			Current Permit
PM_{10}	4.0 lb-PM_{10}/MMscf	0.004 lb-PM_{10}/MMBtu			Current Permit
CO	65.6 lb-CO/MMscf	0.0655 lb-CO/MMBtu	90 ppmvd CO (@ 3%O2)		Current Permit
VOC	4.2 lb-VOC/MMscf	0.0042 lb-VOC/MMBtu	10 ppmvd VOC (@ 3%O2)		Current Permit

Pollutant	Steady State Emission Factors				Source
NO_X	7.2 lb-NO_X/MMscf	0.0072 lb-NO_X/MMBtu	6 ppmvd NO_X (@ 3%O2)		Current Permit
SO_X	2.85 lb-SO_X/MMscf	0.00285 lb-SO_X/MMBtu			Current Permit
PM_{10}	4.0 lb-PM_{10}/MMscf	0.004 lb-PM_{10}/MMBtu			Current Permit
CO	65.5 lb-CO/MMscf	0.0655 lb-CO/MMBtu	90 ppmvd CO (@ 3%O2)		Current Permit
VOC	4.2 lb-VOC/MMscf	0.0042 lb-VOC/MMBtu	10 ppmvd VOC (@ 3%O2)		Current Permit

Potential to Emit

The three boilers have an SLC limiting the combined heat input of all three units to 810,168 MMBtu/year. To calculate emissions during start-up and shutdown periods and steady state operation, the total heat input from these different scenarios must be determined for the three units.

Start-up/Shutdown:

(2 hr/day-unit) x (365 day/yr) x (99.9 MMBtu/hr) x (3 units) = 218,781 MMBtu/year

Steady State:

To calculate steady state emissions from firing on natural gas, the heat input for start-up/shutdown periods must be subtracted from the total maximum heat input.

810,168 MMBtu/year – 218,781 MMBtu/year = 591,387 MMBtu/year

Annual PE - Start-up and Shutdown			
Pollutant	EF (lb/MMBtu)	Heat Input (MMBtu/year)	Annual PE (lb/yr)
NO_X	0.0359	218,781	7,854
SO_X	0.00285	218,781	624
PM_{10}	0.004	218,781	875
CO	0.0655	218,781	14,330
VOC	0.0042	218,781	919

Annual PE – Steady State			
Pollutant	EF (lb/MMBtu)	Heat Input (MMBtu/year)	Annual PE (lb/yr)
NO_X	0.0072	591,387	4,258
SO_X	0.00285	591,387	1,685
PM_{10}	0.004	591,387	2,366
CO	0.0655	591,387	38,736
VOC	0.0042	591,387	2,484

Annual PE - Total			
Pollutant	$PE_{Start-up}$ (lb/yr)	$PE_{Steady\ state}$ (lb/yr)	Total (lb/yr)
NO_X	7,854	4,258	12,112
SO_X	624	1,685	2,309
PM_{10}	875	2,366	3,241
CO	14,330	38,736	53,066
VOC	919	2,484	3,403

Permit Unit C-1243-4-3

Emission Factors

For this unit, operations will be divided into start-up and shutdown periods and steady stated operation periods. Emission factors for each of these modes of operation are presented in the tables below:

Pollutant	Start-up and Shutdown Emission Factors					Source
NO_X	36.0	lb-NO_X/MMscf	0.036	lb-NO_X/MMBtu	30 ppmvd NO_X (@ 3%O2)	Current Permit
SO_X	2.9	lb-SO_X/MMscf	0.00285	lb-SO_X/MMBtu		Current Permit
PM_{10}	10.0	lb-PM_{10}/MMscf	0.01	lb-PM_{10}/MMBtu		Current Permit
CO	37.0	lb-CO/MMscf	0.037	lb-CO/MMBtu	50 ppmvd CO (@ 3%O2)	Current Permit
VOC	16.0	lb-VOC/MMscf	0.016	lb-VOC/MMBtu	38 ppmvd VOC (@ 3%O2)	Current Permit

Pollutant	Steady State Emission Factors			Source
NO_X	7.0 lb-NO_X/MMscf	0.007 lb-NO_X/MMBtu	6 ppmvd NO_X (@ 3%O2)	Current Permit
SO_X	2.9 lb-SO_X/MMscf	0.00285 lb-SO_X/MMBtu		Current Permit
PM_{10}	10.0 lb-PM_{10}/MMscf	0.01 lb-PM_{10}/MMBtu		Current Permit
CO	37.0 lb-CO/MMscf	0.037 lb-CO/MMBtu	50 ppmvd CO (@ 3%O2)	Current Permit
VOC	16.0 lb-VOC/MMscf	0.016 lb-VOC/MMBtu	38 ppmvd VOC (@ 3%O2)	Current Permit
NH_3			5 ppmvd NH_3 (@ 3%O2)	Current Permit

Potential to Emit

Emissions from start-up and shutdown operations and steady state operations must be quantified separately. These emissions are calculated and presented in separate tables below. The PE2 for each pollutant is calculated with the following equation:

PE2 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year):

Annual PE - Start-up and Shutdown				
Pollutant	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/yr)	Annual PE (lb/yr)
NO_X	0.036	32.66	730	858
SO_X	0.00285	32.66	730	68
PM_{10}	0.01	32.66	730	238
CO	0.037	32.66	730	882
VOC	0.016	32.66	730	381

Annual PE - Steady State				
Pollutant	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/yr)	Annual PE (lb/yr)
NO_X	0.007	32.66	8,030	1,836
SO_X	0.00285	32.66	8,030	747
PM_{10}	0.01	32.66	8,030	2,623
CO	0.037	32.66	8,030	9,704
VOC	0.016	32.66	8,030	4,196

In addition to the criteria pollutants the operation of the SCR system will result in ammonia (NH_3) emissions. The annual NH_3 emissions will be calculated utilizing the following equation:

$PE = (ppm)(MW)(2.63 \times 10^{-9})(ff)(C)(20.9/(20.9 - \%O_2))$ lb/day

Where: ppm is the emission concentration of NH_3: PPM_{NH3}= 5 ppmvd@ 3% O_2
MW is the molecular wt. of NH_3: MW_{NH3} = 17
2.63×10^{-9} is a constant
ff is the f-factor of natural gas: ff = 8,578 dscf/MMBtu
C is the fuel burning capacity of the equipment in MMBtu/(day or yr)
% O_2 is the oxygen content to which the stack exhaust is corrected: % O_2 = 3%

Annual NH_3 emissions:
$PE_{NH3} = [(5)(17)(2.63 \times 10^{-9})(8,578)(286,102)(20.9/(20.9 - 3))$ lb/yr]

PE_{NH3} = 641 lb/yr

The combined emissions from both modes of operation are summarized in the following tables:

Annual PE - Total			
Pollutant	PE Start-up (lb/yr)	PE Steady state (lb/yr)	Total (lb/yr)
NO_X	858	1,836	2,694
SO_X	68	747	815
PM_{10}	238	2,623	2,861
CO	882	9,704	10,586
VOC	381	4,196	4,577
NH_3	0	641	641

APPENDIX G
Quarterly Net Emissions Change

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
= 5,188 lb-NOx/year ÷ 4 qtr/year
= 1,297 lb-NOx/qtr

$PE1_{quarterly}$ = $PE1_{annual}$ ÷ 4 quarters/year
= 0 lb-NOx/year ÷ 4 qtr/year
= 0 lb-NOx/qtr

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO_X	1,297.00	0	1,297.00
SO_X	332.50	0	332.50
PM_{10}	883.00	0	883.00
CO	12,900.25	0	12,900.25
VOC	637.75	0	637.75

APPENDIX H
Emission Profile

Application Emissions

Permit #: C-1243-5-1	**Last Updated**
Facility: TOMA-TEK INC	03/24/2016 YOSHIMUJ

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	5188.0	1330.0	3532.0	51601.0	2551.0
Daily Emis. Limit (lb/Day)	23.8	6.1	16.2	236.7	11.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1297.0	332.0	883.0	12900.0	637.0
Q2:	1297.0	332.0	883.0	12900.0	638.0
Q3:	1297.0	333.0	883.0	12900.0	638.0
Q4:	1297.0	333.0	883.0	12901.0	638.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					