San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

APR - 9 2019

Mr. David Rocha
Baker Commodities, Inc.
PO Box 416
Kerman, CA 93630

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: C-72
Project Number: C-1183435

Dear Mr. Rocha:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The modification consists of the installation of a new 30.3 MMBtu/hr natural gas-fired boiler with low-NOx burner and Selective Catalytic Reduction (SCR) system.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Errol Villegas, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Brian Clerico, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

Samir Sheikh
Executive Director/Air Pollution Control Officer

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

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

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

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Natural Gas-Fired Boiler

Facility Name:	Baker Commodities, Inc.	Date:	March 11, 2019
Mailing Address:	PO Box 416	Engineer:	Sajjad Ahmad
	Kerman, CA 93630	Lead Engineer:	Joven Refuerzo
Contact #1:	Marnie Dorsz (Consultant – Montrose Air Quality Services, LLC)		
Telephone:	(714) 282-8240 x12909		
E-Mail:	mdorsz@montrose-env.com		
Contact #2:	David Rocha (Plant Manager)		
Telephone:	(559) 846-9393		
E-Mail:	DRocha@bakercommodities.com		
Application #:	C-72-11-0		
Project #:	C-1183435		
Deemed Complete:	January 30, 2019		

I. Proposal

Baker Commodities, Inc. (herein after called 'the facility') has requested an Authority to Construct (ATC) permit for the installation of a new 30.3 MMBtu/hr natural gas-fired boiler equipped with a low NOx burner, and a Selective Catalytic Reduction (SCR) System.

The draft ATC is included in Appendix A.

Equivalent Equipment Requirements:

The facility has proposed to install a 30.3 MMBtu/hr Hurst Model S500-X-800-150 boiler with an Oilon Model GP-700 M-III low NOx burner and a CataStak Model FT SCR system. The facility has requested the flexibility to install "equivalent equipment" and the following conditions will be listed on the ATC to specify how "equivalent equipment" will be determined pursuant to District Policy APR-1040, *Flexibility in Equipment Descriptions in ATCs (3/14/2004)*:

- The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]

- The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]

- Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]

- No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

Title V Permit Requirements:

The facility received their Title V Permit on November 30, 2004. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. The facility must apply to administratively amend their Title V permit. Therefore, the following conditions will be listed on the ATC:

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]

- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4305	Boilers, Steam Generators, and Process Heaters – Phase 2 (8/21/03)
Rule 4306	Boilers, Steam Generators, and Process Heaters – Phase 3 (10/16/08)
Rule 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)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility is located at 16801 West Jensen Ave in Kerman, 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

Baker Commodities is an unenclosed animal matter rendering facility. The new boiler will be used to provide hot water and steam for use in various processes. The boiler will be fired solely on PUC-quality natural gas.

V. Equipment Listing

C-72-11-0: 30.3 MMBTU/HR HURST MODEL S500-X-800-150 (OR EQUIVALENT) NATURAL GAS-FIRED BOILER WITH AN OILON MODEL GP-700 M-III LN80 (OR EQUIVALENT) LOW-NOX BURNER AND CATASTAK MODEL FT (OR EQUIVALENT) SELECTIVE CATALYST REDUCTION (SCR) SYSTEM

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired boilers include NOx, SOx, PM_{10}, CO, and VOC. SOx, PM_{10}, CO and VOC emissions will be minimized with the use of PUC quality natural gas.

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

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

An SCR system operates as an external control device where flue gases and a reagent, in this case ammonia, are passed through an appropriate catalyst. Ammonia, will be injected upstream of the catalyst where it reacts and reduces NOx, over the catalyst bed, to form elemental nitrogen and other by-products. The use of a catalyst typically reduces the NOx emissions by up to 90%.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day and 365 days per year (worst case).
- The boiler will be fired solely on PUC quality natural gas (per applicant).
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice).
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B).
- The total duration of startup and shutdown time shall not exceed any of the following limits: 4.0 hours per day and 104 hours per year (per applicant).
- To streamline emission calculations, $PM_{2.5}$ emissions are assumed to be equal to PM_{10} emissions. Only if needed to determine if a project is a Federal major modification for $PM_{2.5}$ will specific $PM_{2.5}$ emission calculations be performed.

B. Emission Factors (EFs)

Pollutant		EFs		Source
		ppmvd @ 3% O_2	lb/MMBtu	
NOx	Startup and shutdown modes	35	0.0425	Applicant's proposal
	Steady state mode	2.5	0.003	
SOx		--	0.00285	District Policy APR-1720
PM_{10}		--	0.003	District Practice
CO		10	0.0074	Applicant's proposal
VOC		16	0.0068	
NH_3		10	0.0045	District practice – see calculations below

The ammonia emission factor is calculated as follows:

NH_3: = ppmv NH_3 in exhaust × excess oxygen correction factor (3% O_2) × F-factor for natural gas (8,578 scf/MMBtu, at 60 °F) × (1 / molar volume of an ideal gas at 60°F) × molecular weight of ammonia NH_3

= 10 scf $NH_3/10^6$ scf-exhaust × [20.9/(20.9 – 3%)] × 8,578 scf-exhaust/MMBtu × 1 lb-mol NH_3/379.5 scf × 17 lb NH_3/1 lb-mol NH_3

= 0.0045 lb-NH_3/MMBtu

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

2. Post Project Potential to Emit (PE2)

The daily and annual potential to emit for the boiler are calculated using the following equations and summarized in the tables below:

Daily PE2 (lb/day) = Heat Rating (MMBtu/hr) x [{$EF_{Steady\ State}$ (lb/MMBtu) x 20 (hr/day)} + {$EF_{Startup/shutdown}$ (lb/MMBtu) x 4 hr/day}]

Annual PE2 (lb/year) = Heat Rating (MMBtu/hr) x [{$EF_{Steady\ State}$ (lb/MMBtu) x 8,656 (hr/year)} + {$EF_{Startup/shutdown}$ (lb/MMBtu) x 104 hr/year}]

Daily Post-Project Potential to Emit (PE2)								
Pollutant	Steady-State Operation				Startup and Shutdown			Total Daily PE2
	Emission Factor	Burner Rating	Operating Hours	Daily PE2	Emission Factor	Operating Hours	Daily PE2	
	lb/MMBtu	MMBtu/hr	hr/day	lb/day	lb/MMBtu	hr/day	lb/day	**lb/day**
NOx	0.003	30.3	20	1.8	0.0425	4	5.2	**7.0**
SOx	0.00285	30.3	20	1.7	0.00285	4	0.3	**2.0**
PM_{10}	0.003	30.3	20	1.8	0.003	4	0.4	**2.2**
CO	0.0074	30.3	20	4.5	0.0074	4	0.9	**5.4**
VOC	0.0068	30.3	20	4.1	0.0068	4	0.8	**4.9**
NH3	0.0045	30.3	20	2.7	0.0045	4	0.5	**3.2**

Annual Post-Project Potential to Emit (PE2)								
Pollutant	Steady-State Operation				Startup and Shutdown			Total Annual PE2
	Emission Factor	Burner Rating	Operating Hours	Annual PE2	Emission Factor	Operating Hours	Annual PE2	
	lb/MMBtu	MMBtu/hr	hr/year	lb/year	lb/MMBtu	hre/year	lb/year	**lb/year**
NOx	0.003	30.3	8,656	787	0.0425	104	134	**921**
SOx	0.00285	30.3	8,656	747	0.00285	104	9	**756**
PM_{10}	0.003	30.3	8,656	787	0.003	104	9	**796**
CO	0.0074	30.3	8,656	1,941	0.0074	104	23	**1,964**
VOC	0.0068	30.3	8,656	1,783	0.0068	104	21	**1,804**
NH3	0.0045	30.3	8,656	1,180	0.0045	104	14	**1,194**

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

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

SSPE1 is based on project C-1172016 as summarized in the table below:

SSPE1 (lb/year)						
Permit Unit	NOx	SOx	PM_{10}	$PM_{2.5}$	CO	VOC
C-72-1-5[1]	0	0	0	0	0	0
C-72-3-14	51,684	21,900	14,016	14,016	61,320	1,314
C-72-6-4	0	0	0	0	0	32
C-72-7-10	12,457	986	5,183	5,183	51,210	1,898
C-72-8-6	3,642	944	2,516	2,516	36,464	1,168
C-72-9-5	0	0	134	134	0	0
C-72-10-1	12	0	1	1	2	1
SSPE1	**67,795**	**23,830**	**21,850**	**21,850**	**148,996**	**4,413**

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}	$PM_{2.5}$	CO	VOC
C-72-1-5[2]	0	0	0	0	0	0
C-72-3-14	51,684	21,900	14,016	14,016	61,320	1,314
C-72-6-4	0	0	0	0	0	32
C-72-7-10	12,457	986	5,183	5,183	51,210	1,898
C-72-8-6	3,642	944	2,516	2,516	36,464	1,168
C-72-9-5	0	0	134	134	0	0
C-72-10-1	12	0	1	1	2	1
ATC C-72-11-0	921	756	796	796	1,964	1,804
SSPE2	**68,716**	**24,586**	**22,646**	**22,646**	**150,960**	**6,217**

[1] As outlined in District project C-1061086, there are no criteria pollutant emissions from the animal matter receiving operation. This operation is permitted for nuisance purposes and criteria pollutant emissions are equal to 0 lb/year.
[2] As outlined in District project C-1061086, there are no criteria pollutant emissions from the animal matter receiving operation. This operation is permitted for nuisance purposes and criteria pollutant emissions are equal to 0 lb/year.

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)						
	NOx	**SOx**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**VOC**
SSPE1	67,795	23,830	21,850	21,850	148,996	4,413
SSPE2	68,716	24,586	22,646	22,646	150,960	6,217
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	No	No

Note: $PM_{2.5}$ assumed to be equal to PM_{10}

As seen in the table above, the facility is an existing major source for NOx emissions and will remain a major source for NOx emissions as a result of this project

Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)						
	NO_2	**SO_2**	**PM**	**PM_{10}**	**CO**	**VOC**
Estimated Facility PE before Project Increase*	34	12	11	11	74	2
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

*Calcualted by dividing SSPE1 with 2,000 lb/ton.

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.

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 a Major Source of NOx only, an SB 288 Major Modification may only be triggered for NOx. Therefore, the NOx PE2 for this project is compared to the SB 288 Major Modification Threshold in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	**Project PE2 (lb/year)**	**Threshold (lb/year)**	**SB 288 Major Modification Calculation Required?**
NOx	921	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

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

Since this facility is a Major Source for NOx only, a Federal Major Modification may only be triggered for NOx.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

The project's combined total NOx emission increases are calculated in Section VII.C.2 of this document and compared to the Federal Major Modification Threshold in the following table:

Federal Major Modification Thresholds for Emission Increases			
Pollutant	**Total Emissions Increases (lb/yr)**	**Thresholds (lb/yr)**	**Federal Major Modification?**
NOx*	921	0	Yes

*If there is any emission increases in NOx, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in NOx emissions, this project constitutes a Federal Major Modification for NOx emissions. Federal Offset quantities are calculated below.

Federal Offset Quantities:

The Federal offset quantity is only calculated only for the pollutants for which the project is a Federal Major Modification. The Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) during the baseline period for each emission unit multiplied by the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

NOx **Federal Offset Ratio** **1.5**

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
C-72-11-0	0	921	921
		Net Emission Change (lb/year):	921
		Federal Offset Quantity: (NEC x 1.5)	1,382

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 (see 52.21 (b) (23) definition of significant) and which are emitted in this project are:

- NO_2 (as a primary pollutant)
- SO_2 (as a primary pollutant)
- CO
- PM
- PM_{10}

I. Project Emissions Increase - New Major Source Determination

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

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

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO_2	SO_2	PM	PM_{10}	CO	VOC
Total PE from New and Modified Units*	0.5	0.4	0.4	0.4	1.0	0.9
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

*Calcualted by dividing annual PE2 from new boiler with 2,000 lb/ton.

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

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

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

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

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

As calculated in Section VII.C.2 of this document, daily PE2 is greater than 2.0 lb/day for NOx, PM_{10}, CO, and VOC emissions. Since SSPE2 for CO emissions is not greater than 200,000 lb/year, BACT is not triggered for CO emissions. Therefore, BACT is triggered for NOx, PM_{10}, and VOC emissions only.

Additionally, daily PE2 for ammonia (NH_3) emissions from the SCR system is greater than 2.0 lb/day. However, SCR is an add-on emission control system for NOx and the District practice is not to evaluate BACT for add-on emission control equipment. Furthermore, the NH_3 emissions were found not to pose a significant health risk to the nearby public, so BACT for toxic emissions (T-BACT) is not required.

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 Section VII.C.8 of this document, this project does constitute a Federal Major Modification for NOx emissions. Therefore, BACT is triggered for NOx emissions for the new boiler under this category.

2. BACT Guideline

Since BACT guideline for boilers with heat input rating of greater than 20 MMBtu/hr has been rescinded, the District will conduct project specific BACT analysis for NOx, PM_{10} and VOC emissions.

3. Top-Down BACT Analysis

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

Pursuant to the attached Top-Down BACT Analysis (see Appendix C), BACT has been satisfied with the following:

NOx: 2.5 ppmvd NOx @ 3% O_2 using SCR system or equivalent emission control equipment

The applicant will be required to use SCR system insofar as technologically feasible to minimize the startup emissions. Further, the boiler is required to achieve and operate at or below 2.5 ppmvd NOx @ 3% O_2 during steady state.

PM_{10} and VOC:
The proposed use of PUC quality natural gas fuel will satisfy the BACT requirements for PM_{10} and VOC emissions.

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

- Except during start-up and shutdown, emissions from natural gas combustion shall not exceed any of the following limits: 2.5 ppmv NOx @ 3% O_2 or 0.003 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.003 lb-PM_{10}/MMBtu; 10 ppmv CO @ 3% O_2 or 0.0074 lb-CO/MMBtu; or 16 ppmv VOC @ 3% O_2 or 0.0068 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

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

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NOx	**SOx**	**PM_{10}**	**CO**	**VOC**
SSPE2	68,716	24,586	22,646	150,960	6,217
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	No

2. Quantity of Offsets Required

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

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

Offsets Required (lb/year) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

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 = HAE

The facility is proposing to install a new emissions unit; therefore BE = 0. Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

Offsets Required (lb/year) = ([PE2 – BE] + ICCE) x DOR

PE2 (NOx) = 921 lb/year
BE (NOx) = 0 lb/year
ICCE = 0 lb/year

The project is a Federal Major Modification and therefore the correct offset ratio for NOx is 1.5:1.

Thus, the amount of NOx ERCs that need to be withdrawn is:

Offsets Required (lb/year) = ([921 – 0] + 0) x 1.5
= 921 x 1.5
= 1,382 lb-NOx/year

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

Quarterly offsets required (lb/qtr) = (1,382 lb-NOx/year) ÷ (4 quarters/year)
= 345.5 lb-NOx/qtr

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

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

Redistribution of Required Quarterly Offsets (where X is the annual amount of offsets, and X ÷ 4 = Y.z)				
Value of z	**Quarter 1**	**Quarter 2**	**Quarter 3**	**Quarter 4**
.0	Y	Y	Y	Y
.25	Y	Y	Y	Y+1
.5	Y	Y	Y+1	Y+1
.75	Y	Y+1	Y+1	Y+1

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

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total Annual
345	345	346	346	1,382

However, the applicant has requested to distribute the quarterly offsets as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total Annual
345	346	346	345	1,382

The applicant has stated that the facility plans to use ERC certificate S-4641-2 to offset the increases in NOx emissions associated with this project. The above certificate has available quarterly NOx credits as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #S-4641-2	14,283	649	2,200	4,032

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 345 lb, 2nd quarter - 346 lb, 3rd quarter - 346 lb, and 4th quarter - 345 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number S-4641-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

3. ERC Withdrawal Calculations

The applicant must identify the ERC Certificate(s) to be used to offset the increase of 1,382 emissions for the project. As indicated in previous section, the applicant is proposing to use ERC certificate #S-4641-2 to mitigate the increases of 1,382 emissions associated with this project. See Appendix F for detailed ERC Withdrawal Calculations.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

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

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

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in Section VII.C.8, this project is a Federal Major Modification. Therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

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

c. Offset Threshold

Pursuant to District Rule 2201, Section 4.5.3, offset requirements shall be triggered on a pollutant-by-pollutant basis, unless exempted pursuant to Section 4.6, offsets shall be required if the post-project Stationary Source Potential to Emit (SSPE2) equals or exceeds specific threshold levels.

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?**
NOx	67,795	68,716	20,000 lb/year	No
SOx	23,830	24,586	54,750 lb/year	No
PM_{10}	21,850	22,646	29,200 lb/year	No
CO	148,996	150,960	200,000 lb/year	No
VOC	4,413	6,217	20,000 lb/year	No

As detailed above, there were no new offset 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?**
NOx	68,716	67,795	921	20,000 lb/year	No
SOx	24,586	23,830	756	20,000 lb/year	No
PM_{10}	22,646	21,850	796	20,000 lb/year	No
CO	150,960	148,996	1,964	20,000 lb/year	No
VOC	6,217	4,413	1,804	20,000 lb/year	No

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

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this project for Federal Major Modification and Title V Significant Modification for NOx emissions. 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:

Startup/shutdown:

- The total duration of startup and shutdown time shall not exceed any of the following limits: 2.0 hours startup per day, 2.0 hours shutdown per day, or 104 hours total startup and shutdown time per year. [District Rules 2201, 4305, 4306, and 4320]

- During startup and shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. [District Rules 2201, 4305, 4306 and 4320]

- During startup and shutdown periods, emissions from natural gas combustion shall not exceed any of the following limits: 35 ppmv NOx @ 3% O_2 or 0.0425 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.003 lb-PM_{10}/MMBtu; 10 ppmv CO @ 3% O_2 or 0.0074 lb-CO/MMBtu; or 16 ppmv VOC @ 3% O_2 or 0.0068 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

Steady state:

- Except during startup and shutdown, emissions from natural gas combustion shall not exceed any of the following limits: 2.5 ppmv NOx @ 3% O_2 or 0.003 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.003 lb-PM_{10}/MMBtu; 10 ppmv CO @ 3% O_2 or 0.0074 lb-CO/MMBtu; or 16 ppmv VOC @ 3% O_2 or 0.0068 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

In addition the following permit conditions will be listed on ATC to ensure compliance:

- NH_3 emissions from the SCR system shall not exceed 10 ppmvd @ 3% O_2. [District Rule 2201]

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

- {1407} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

This unit is subject to the source testing requirements of District Rule 4320, "Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr". Source testing requirements will be discussed under District Rule 4320 discussion in this evaluation.

2. Monitoring

This unit is subject to the monitoring requirements of District Rule 4320, "Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr". Monitoring requirements will be discussed under District Rule 4320 discussion in this evaluation.

3. Recordkeeping

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

- Daily and annual records of start-up and shutdown durations and number of occurrences of each shall be kept. [District Rules 2201, 4305, 4306, and 4320]

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306 and 4320, and 40 CFR 60.48c(i)]

In addition, the new boiler is subject to the recordkeeping requirements of District Rule 4320, "Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr". Recordkeeping requirements of District Rule 4320 will be discussed in the District Rule 4320 section of this evaluation.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

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

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

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 $PM_{2.5}$.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As calculated in Section VII.C.8 of this document, this project does constitute a Federal Major Modification, therefore this requirement is applicable. The facility's compliance certification is included in Appendix E.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a new 30.3 MMBtu/hr natural gas-fired boiler.

Since the new boiler will provide steam and hot water to be used at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

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

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

A minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project involves the installation of a new emission unit that is subject to an NSPS requirement (the new boiler is subject to 40 CFR Part 60 Subpart Dc as discussed under Rule 4001 in next section), the proposed project is considered a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued.

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

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]

- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

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 – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

This subpart applies to steam generating units that are constructed, reconstructed, or modified after 6/9/89 and have a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. Subpart Dc has standards for SOx and PM_{10} emissions.

Since the facility is proposing to install a new 30.3 MMBtu/hr natural gas-fired boiler, this section applies to the new boiler.

§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 proposed unit in this project will not combust coal or 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 proposed boiler will not combust coal or 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. As discussed above, the proposed boiler is not subject to a SO_2 emission standard of §60.42c; 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. As discussed above, the proposed boiler is not subject to a PM emission standard §60.43c; therefore, PM testing is not required.

§60.46c – Emission monitoring for sulfur dioxide:

This paragraph outlines emission monitoring requirements for sulfur dioxide for units that are subject to an SO_2 emission standard from §60.42c. As discussed above, the proposed boiler is not subject to a SO_2 emission standard of §60.42c; 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. As discussed above, the proposed boiler is not subject to a PM emission standard §60.43c; 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 permit's equipment description and permit conditions. 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 as the proposed boiler 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 SO_2 and PM standards of §60.42c and §60.43c. Since the proposed unit in this project is not subjec 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 proposed unit in this project is not subject to either §60.42c or §60.44c; therefore, the requirements of this paragraph are not applicable.

Section 60.48c(g)(2), the owner or operator of an affected facility that combusts 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 emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month. Therefore, the following conditions will be listed on the ATC to ensure compliance:

- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [40 CFR 60.48c(g)]

- The permittee shall maintain records of the amount of fuel combusted during each calendar month in this unit. [40 CFR 60.48c(g)]

Section 60.48c(i) states that all records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306 and 4320, and 40 CFR 60.48c(i)]

Therefore, compliance is expected with this regulation.

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.

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

This subpart is applicable to boilers and process heaters located at Major Sources of HAP emissions. This facility is not a Major source of HAP emissions. Therefore, the proposed unit is not subject to this subpart.

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

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

The boiler under this project meets the definition of a "gas-fired boiler" as this unit is required to use natural gas fuel. Therefore, Subpart JJJJJJ requirements are not applicable.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). The following condition listed as #22 on the facility-wide PTO C-72-0-2 will ensure compliance with this rule:

- {4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)]

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 listed as #42 on the facility-wide PTO C-72-0-2 will ensure compliance with this rule:

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

The cancer risk for this project is shown below:

HRA Summary		
Unit	**Cancer Risk**	**T-BACT Required**
C-72-11-0	0.00436 per million	No

Discussion of T-BACT

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

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

The following condition will be listed on the ATC to ensure compliance with the assumptions used to perform the health risk assessment:

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

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. The exhaust grain loading for each fuel is calculated as follows:

Natural Gas Combustion:

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
PM_{10} Emission Factor: 0.003 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 = $\frac{20.9}{(20.9 - 3)} = 1.17$

Thus, grain loading (GL) is calculated as follows:

$$GL = \left(\frac{0.003\ lb - PM}{MMBtu} \times \frac{7{,}000\ grain}{lb - PM}\right) / \left(\frac{8{,}578\ ft^3}{MMBtu} \times 1.17\right)$$

$$GL = 0.0021\ \frac{grain}{ft^3}$$

Since grain loading is less than 0.1 gr/dscf, compliance with District Rule 4201 requirements is expected and the following condition will be listed on ATC to ensure compliance:

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

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.

Hourly emission rates are calculated in the table below based on worst case daily PE2 calculated in Section VII.C.2 of this document. For NOx worst case is during startup and shutdown period of 4 hr/day. For PM and SOx, hourly rate is calculated by dividing by 24 hours/day.

District Rule 4301 Limits			
	NO_2	**Total PM**	**SO_2**
Daily PE2 (lb/day)	5.2	2.2	2.0
Operation (hr/day)	4	24	24
Hourly Rate (lb/hr)	1.3	0.09	0.08
Rule Limit (lb/hr)	140	10	200

The above table indicates compliance with the maximum lb/hr emissions in this rule for the new boiler within this project. Therefore, continued compliance is expected.

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

The new boiler involved with this project is subject to Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2.* In addition, the boiler is also subject to District Rule 4320. Since emissions limits of Rule 4320 and all other requirements are equivalent to or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

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

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

The new boiler involved with this project is subject to Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3.* In addition, the boiler is also subject to District Rule 4320. Since emissions limits of Rule 4320 and all other requirements are equivalent to 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 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr

The purpose of this rule is to limit emissions of oxides of nitrogen (NOx), carbon monoxide (CO), oxides of sulfur (SO_2), and particulate matter 10 microns or less (PM_{10}) from boilers, steam generators, and process heaters.

This rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a total rated heat input greater than 5 million Btu per hour (MMBtu/hr). Since the boiler is greater than 5 MMBtu/hr and is fired on natural gas, this rule is applicable.

Section 5.2, NOx and CO Emissions Limits

Section 5.2 requires NOx and carbon monoxide (CO) emissions to not exceed the applicable limits specified in the Table 1 of the rule. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.00 percent by volume stack gas oxygen.

Since the new boiler is rated greater than 20 MMBtu/hr, the applicable emission limit is for Category B in Table 1 of the rule as summarized as follows:

Table 1: Rule 4320 Emissions Limits		
Category	**Operated on gaseous fuel**	
	NOx Limit	**CO Limit**
B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through G units (Standard Schedule)	7 ppmv or 0.008 lb/MMBtu (Standard Schedule)	400 ppmv

However, the boiler is subject to more stringent BACT limit of 2.5 ppmv NOx @ 3% O_2 during steady state operation, as discussed under BACT discussion under Rule 2201. In addition, the facility has proposed a CO emission limit of 10 ppmv CO @ 3% O_2. Therefore, the following condition will be listed on the ATC to ensure compliance with these emission limits:

- Except during start-up and shutdown, emissions from natural gas combustion shall not exceed any of the following limits: 2.5 ppmv NOx @ 3% O_2 or 0.003 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.003 lb-PM_{10}/MMBtu; 10 ppmv CO @ 3% O_2 or 0.0074 lb-CO/MMBtu; or 16 ppmv VOC @ 3% O_2 or 0.0068 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

Section 5.3, Annual Fee Calculation

Since the new boiler will meet the applicable 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 control of particulate matter emissions, on and after the applicable NOx compliance deadline in Section 5.2 Table 1:

5.4.1.1 Fire the boiler exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases.

5.4.1.2 Limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet.

5.4.1.3 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 proposed new boiler will only be fired on PUC-quality natural gas fuel, which meets Section 5.4.1.1 above and the following conditions will be listed on the ATC to ensure compliance:

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

- {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 5.5, Low Use

The proposed new boiler's annual heat input will exceed the 1.8 billion Btu heat input per calendar year criteria limit addressed by this section. Therefore, the requirements of Section 5.5 are not applicable.

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. Only Sections 5.6.1 and 5.6.2 apply to the new boiler and require the following:

1. The duration of each startup or shutdown must not exceed two hours per event, unless the APCO approves a larger allowable startup or shutdown duration.
2. The emission control system must be in operation and emission be minimized insofar as technologically feasible during startup and shutdown.

The following conditions will be listed on the ATC to ensure compliance with the startup and shutdown requirements:

- The total duration of startup and shutdown time shall not exceed any of the following limits: 2.0 hours startup per day, 2.0 hours shutdown per day, or 104 hours total startup and shutdown time per year. [District Rules 2201, 4305, 4306, and 4320]

- During startup and shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. [District Rules 2201, 4305, 4306 and 4320]

- During startup and shutdown periods, emissions from natural gas combustion shall not exceed any of the following limits: 35 ppmv NOx @ 3% O_2 or 0.0425 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.003 lb-PM_{10}/MMBtu; 10 ppmv CO @ 3% O_2 or 0.0074 lb-CO/MMBtu; or 16 ppmv VOC @ 3% O_2 or 0.0068 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

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 NOx, CO and O_2, or install and maintain APCO-approved alternate monitoring. For the proposed new boiler, the facility has proposed to use the pre-approved Alternate Monitoring

Scheme H, as specified in District Policy SSP-1105, using a portable analyzer to periodically measure the NOx, CO, and O_2, and ammonia slip emissions concentrations from the exhaust stack for the boiler equipped with SCR system. Therefore, the following conditions will be listed on the ATC to ensure compliance:

- {4319} The permittee shall monitor and record the stack concentration of NOx, CO, NH_3 and O_2 at least once during each month in which source testing is not performed. NOx, CO and O_2 monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH_3 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 O_2 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, NH_3 and O_2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, CO and NH_3 concentrations corrected to 3% O2, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH_3

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]

5.7.6 Monitoring SOx Emissions

Section 5.7.6 outlines requirements for monitoring SOx emissions. These monitoring requirements are only applicable to operators complying with Sections 5.4.1.1, 5.4.1.2, or 5.4.1.3. The operator will be required to comply with Section 5.4.1.1 when firing on natural gas; whereas, compliance with Sections 5.4.1.1, 5.4.1.2, and 5.4.1.3 is not required for curtailment fuels. The following condition will be listed on the ATC to ensure compliance:

- {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 ATC to ensure compliance:

- {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 ATC to ensure compliance:

- {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 NOx 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. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {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]

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 ATC to ensure compliance:

- {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 non-compliance with the applicable requirements of this rule shall constitute a violation of this rule.

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

- Daily and annual records of start-up and shutdown durations and number of occurrences of each shall be kept. [District Rules 2201, 4305, 4306, and 4320]

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306 and 4320, and 40 CFR 60.48c(i)]

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
NOx	ppmv	EPA Method 7E or ARB Method 100
NOx	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 or 19
Stack Gas Moisture Content	%	EPA Method 4

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

- {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 (O_2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]

- {4349} Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320]

Additionally, BAAQMD Method ST-1B will be required to determine the ammonia emissions. The following condition will be listed on the ATC to ensure compliance:

- 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 the proposed new boiler 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 source test may be deferred for up to thirty-six months. In addition, the initial source testing will be required

The following conditions will be listed on the permit:

- Source testing to measure natural gas combustion NOx, CO, and NH_3 emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 4305, 4306, and 4320]

- Source testing to measure natural gas combustion NOx, CO, and NH_3 emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests when unit is fired on natural gas, 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]

Conclusion

Compliance with District Rule 4320 requirements is expected.

Rule 4351 Boilers, Steam Generators and Process Heaters – Phase I

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 shown in Section VII.C.5 of this document, the facility is a Major Source for NOx emissions. In addition, the facility is located in Fresno County; therefore, the requirements of this rule are applicable to the proposed new boiler. However, the requirements of this rule are satisfied when a unit is operated in compliance with more stringent requirements of Rule 4320. Since the proposed new boiler will be operating in compliance with Rule 4320, compliance with this rule is expected.

Rule 4801 Sulfur Compounds

This rule requires that 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.

Compliance with the more stringent fuel sulfur requirements of Rule 4320 will ensure that the proposed new boiler will meet the emission limits of Rule 4801; therefore, compliance with this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

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

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

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

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

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

District CEQA Findings

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project will occur at an existing facility and the project involves negligible or no expansion of the existing use. Furthermore, the District determined that the project will not have a significant effect on the environment. The District finds that the project 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)).

Indemnification Agreement/Letter of Credit Determination

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

Although the project is located at a potential facility of concern (Rendering Facility), the proposed project has been determined to have a less than significant environmental impact. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC C-72-11-0 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-72-11-0	3020-02-H	30.3 MMBtu/hr boiler	$1,183

Appendixes

A: Draft ATC
B: Quarterly Net Emissions Change (QNEC)
C: BACT Analysis
D: HRA and AAQA Summary
E: Compliance Certification
F: ERC Withdrawal Calculations

APPENDIX A

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-72-11-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: BAKER COMMODITIES, INC
MAILING ADDRESS: PO BOX 416
KERMAN, CA 93630

LOCATION: 16801 W JENSEN AVE
KERMAN, CA 93630

EQUIPMENT DESCRIPTION:
30.3 MMBTU/HR HURST MODEL S500-X-800-150 (OR EQUIVALENT) NATURAL GAS-FIRED BOILER WITH AN OILON MODEL GP-700 M-III LN80 (OR EQUIVALENT) LOW-NOX BURNER AND CATASTAK MODEL FT (OR EQUIVALENT) SELECTIVE CATALYST REDUCTION (SCR) SYSTEM

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 345 lb, 2nd quarter - 346 lb, 3rd quarter - 346 lb, and 4th quarter - 345 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-4641-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

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.

Samir Sheikh, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

C-72-11-0 : Mar 25 2019 9:08AM – AHMADS : Joint Inspection NOT Required

5. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
11. This unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. 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] Federally Enforceable Through Title V Permit
13. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
14. The total duration of startup and shutdown time shall not exceed any of the following limits: 2.0 hours startup per day, 2.0 hours shutdown per day, or 104 hours total startup and shutdown time per year. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. During startup and shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
16. During startup and shutdown periods, emissions from natural gas combustion shall not exceed any of the following limits: 35 ppmv NOx @ 3% O2 or 0.0425 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.003 lb-PM10/MMBtu; 10 ppmv CO @ 3% O2 or 0.0074 lb-CO/MMBtu; or 16 ppmv VOC @ 3% O2 or 0.0068 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Except during startup and shutdown, emissions from natural gas combustion shall not exceed any of the following limits: 2.5 ppmv NOx @ 3% O2 or 0.003 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.003 lb-PM10/MMBtu; 10 ppmv CO @ 3% O2 or 0.0074 lb-CO/MMBtu; or 16 ppmv VOC @ 3% O2 or 0.0068 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. NH3 emissions from the SCR system shall not exceed 10 ppmvd @ 3% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure steady state NOx, CO, and NH3 emissions from this unit shall be conducted within 60 days of initial startup. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Source testing to measure natural gas combustion NOx, CO, and NH3 emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests when unit is fired on natural gas, 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. 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] Federally Enforceable Through Title V Permit

22. 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] Federally Enforceable Through Title V Permit

23. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

24. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

25. Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320] Federally Enforceable Through Title V Permit

26. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 2201] Federally Enforceable Through Title V Permit

27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

29. 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] Federally Enforceable Through Title V Permit

30. 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] Federally Enforceable Through Title V Permit

31. 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] Federally Enforceable Through Title V Permit

32. 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. 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] Federally Enforceable Through Title V Permit

34. 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] Federally Enforceable Through Title V Permit

35. 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] Federally Enforceable Through Title V Permit

36. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

37. The permittee shall maintain records of the amount of fuel combusted during each calendar month in this unit. [40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

38. Daily and annual records of start-up and shutdown durations and number of occurrences of each shall be kept. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

39. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306 and 4320, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit

APPENDIX B

Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

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

Since this is a new emission units, PE1 is zero for all pollutants.

Pollutant	Annual PE2 (lb/yr)	Quarterly PE2 (lb/qtr)
NOx	921	230.25
SOx	756	189
PM_{10}	796	199
CO	1,964	491
VOC	1,804	451

QNEC (lb/qtr) = PE2 (lb/qtr) – PE1 (lb/qtr)

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NOx	230.25	0	230.25
SOx	189	0	189
PM_{10}	199	0	199
CO	491	0	491
VOC	451	0	451

Since QNEC values are entered in PAS database as whole numbers, QNEC will be distributed in four quarters as summarized in the table below:

Pollutant	Quarterly NEC [QNEC]			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NOx	230	230	230	231
SOx	189	189	189	189
PM_{10}	199	199	199	199
CO	491	491	491	491
VOC	451	451	451	451

APPENDIX C

BACT Analysis

Top-Down BACT Analysis

C-72-11-0: 30.3 MMBtu/hr natural gas-fired boiler with SCR system

Note: The following project specific BACT analysis is based on a recent District project N-1172636 that was to install a new 29.4 MMBtu/hr natural gas-fired boiler (permit unit N-9406-1-0). Since the new 30.3 MMBtu/hr natural gas-fired boiler proposed under this project is similar in size, most information from project N-1172636 is retained and updated only where necessary.

NOx:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:
The following references were consulted to determine emission limits and control required to reduce NOx emissions for boilers rated above 20 MMBtu/hr:

- EPA RACT/BACT/LAER clearinghouse
- CARB BACT clearinghouse
- South Coast AQMD BACT clearinghouse
- Bay Area AQMD BACT clearinghouse
- Sacramento Metro AQMD BACT Clearinghouse

Note that SJVAPCD BACT clearinghouse was not consulted because the BACT requirements are out of date and are being revised at this time. When a boiler triggers BACT, a case-by-case determination is conducted and the results of that determination are considered BACT for that industry.

The following Rules were also consulted:

- South Coast AQMD Rule 1146
- Bay Area AQMD Regulation 7, Rule 9
- Sacramento Metro AQMD Rule 411
- SJVAPCD Rule 4320

A survey of source test results for units located in the SJVAPCD was also conducted. The purpose of the survey was to determine the emission levels that are currently being met. Note that results of limited units with different heat input rating were reviewed.

Survey of BACT Guidelines:
Since NOx and CO are related, this analysis will also include CO. The table below shows NOx and CO data.

Agency	Heat input rate (MMBtu/hr)	NOx (ppmvd @ 3% O2)	CO (ppmvd @ 3% O2)
EPA	The EPA RACT/BACT/LAER clearinghouse does not include general guidelines, only determinations done by individual agencies. The NOx and CO ranges are shown in the section below.		
	>20*	8 to 74 RBLC ID (8 ppm): MD-0042 RBLC ID (74 ppmv): TX-0501	49, 103 RBLC ID (49 ppm): MD-0042 RBLC ID (103 ppmv): TX-0501
	*Note that out of 59 units, 14 units indicate NOx level of less than or equal to 9 ppmvd @ 3% O2, and the remaining units are greater than 9 ppmvd NOx @ 3% O2.		
CARB	The CARB clearinghouse does not include general guidelines, only individual determinations done by individual districts. None of the determinations are more stringent than most stringent standards shown below so the CARB data will not be listed.		
SCAQMD*	≥ 20	9 w/LNB; or 7 w/add on control	50 – firetube 100 – watertube
	*Guidelines currently being revised to reflect the Rule 1146 NOx limits (in the cases where the BACT limit is less stringent than the rule limit). For the ≥ 20 MMBtu/hr units, the applicant chooses the control level (LNB or add-on controls).		
BAAQMD	5 to < 33.5	--	50 – firetube 100 – watertube
SMAQMD	5 to < 25	9	400

Survey of Applicable Rules:
Since NOx and CO are related, this analysis will also include CO. The table below shows NOx and CO data.

Agency	Heat input rate (MMBtu/hr)	NOx (ppmvd @ 3% O2)	CO (ppmvd @ 3% O2)
SCAQMD Rule 1146	5 to < 75	9	400
BAAQMD Reg 9 Rule 7	≥ 20 load following	15	400
	≥ 20 to < 75	9	400
SMAQMD Rule 411	> 20	9	400
SJVAPCD Rule 4320	>20	7	400
EPA	40 CFR Part 60 Subparts Db does not contain NOx emission limits for the proposed boiler unit.		
CARB	No Rules		

Survey of Source Tests:
The following table summarizes source test results of boilers >20 MMBtu/hr with active valid Permits to Operate at corrugated board manufacturing facilities.

Facility/Permit #	Heat input rate (MMBtu/hr)	Technology in-use	Test date	Emissions (ppmvd @ 3% O2)	
				NOx	CO
Georgia Pacific Corrugated LLC (C-568-2-6)	24.494	Low-NOx burner with FGR	2/12/15	4.9	1.3
			2/16/16	6.3	0.1
Central California Sheets, LLC (C-8609-3-0)	**25.2**	**Low-NOx burner with SCR system**	**1/3/14**	**2.3**	**1.1**
			1/20/15	**1.6**	**1.1**
Pacific Southwest Container LLC (N-3606-30-1)	20.4	Ultra low-NOx burner	10/21/13	4.8	8.3
			10/21/14	5.1	0.1
Cal Sheets LLC (N-4195-1-3)	20.925	Low-NOx burner with FGR	9/8/13	5.8	7.0
			9/27/16	5.5	2.5

From the review of the above data, the following level of emissions is considered achieved-in-practice for a boiler >20 MMBtu/hr:

NOx: 2.5 ppmvd NOx @ 3% O_2 using SCR system or equivalent emission control equipment

Note that the above emission standard leaves about 28%[3] margin of compliance over the average tested value[4].

Technologically Feasible:
None

Alternate Basic Equipment:
None

Step 2 - Eliminate technologically infeasible options

There is no technologically infeasible option.

Step 3 - Rank remaining options by control effectiveness

1. 2.5 ppmvd NOx @ 3% O_2 using SCR system or equivalent emission control equipment

[3] (2.5 – 1.95)/1.95 = 0.28 or 28%
[4] Average tested value = (2.3 + 1.6)/2 = 1.95 ppmvd @ 3% O2

Step 4 - Cost Effectiveness Analysis

There is no technically feasible option or alternative basic equipment listed in Step 3 (above). Therefore, no further discussion is required.

Step 5 – Select BACT

BACT for the proposed boiler is to achieve 2.5 ppmvd @ 3% O_2 or less NOx emissions during normal source operation. The applicant has proposed to comply with this standard; therefore, BACT requirements are satisfied.

PM10:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:
The following references were consulted to determine emission limits and control required to reduce NOx emissions for boilers rated above 20 MMBtu/hr:

- EPA RACT/BACT/LAER clearinghouse
- CARB BACT clearinghouse
- South Coast AQMD BACT clearinghouse
- Bay Area AQMD BACT clearinghouse
- Sacramento Metro AQMD BACT Clearinghouse

Note that SJVAPCD BACT clearinghouse was not consulted because the BACT requirements are out of date and are being revised at this time. When a boiler triggers BACT, a case-by-case determination is conducted and the results of that determination are considered BACT for that industry.

The following Rules were also consulted:

- South Coast AQMD Rule 1146
- Bay Area AQMD Regulation 7, Rule 9
- Sacramento Metro AQMD Rule 411
- SJVAPCD Rule 4320

A survey of source test results for units located in the SJVAPCD was also conducted. The purpose of the survey was to determine the emission levels that are currently being met. Note that results of limited units with different heat input rating were reviewed.

Survey of BACT Guidelines:

Agency	Heat input rate (MMBtu/hr)	PM10 (lb/MMBtu)
EPA	The EPA RACT/BACT/LAER clearinghouse does not include general guidelines, only determinations done by individual agencies. The NOx and CO ranges are shown in the section below.	
	>20*	0.0018-0.02 RBLC ID (0.0018): MI-0412 RBLC ID (0.02): OH-0323
	*Units fired on natural gas and are not equipped with any post-combustion PM10 emission control equipment.	
CARB	The CARB clearinghouse does not include general guidelines, only individual determinations done by individual districts. None of the determinations are more stringent than most stringent standards shown below so the CARB data will not be listed.	
SCAQMD	≥ 20	Natural gas fuel
BAAQMD	5 to < 33.5	Low sulfur fuel
SMAQMD	5 to < 25	None

Survey of Applicable Rules:

Agency	Heat input rate (MMBtu/hr)	PM10 (lb/MMBtu)
SCAQMD Rule 1146	5 to < 75	None
BAAQMD Reg 9 Rule 7	≥ 20 load following	None
	≥ 20 to < 75	None
SMAQMD Rule 411	> 20	None
SJVAPCD Rule 4320	>20	None
EPA	40 CFR Part 60 Subparts Db does not contain NOx emission limits for the proposed boiler unit.	
CARB	No applicable rule	

Survey of Source Tests:
None of the boilers in the table below is tested for PM10 emissions.

Facility/Permit #	Heat input rate (MMBtu/hr)	Method to reduce PM10 emissions	Permitted Emissions (lb/MMBtu)
			PM10
Georgia Pacific Corrugated LLC (C-568-2-6)	24.494	PUC quality natural gas	0.014
Central California Sheets, LLC (C-8609-3-0)	25.2	PUC quality natural gas	0.0076
Pacific Southwest Container LLC (N-3606-30-1)	20.4	PUC quality natural gas	0.0076
Cal Sheets LLC (N-4195-1-3)	20.925	PUC quality natural gas	0.0076

From the review of the above data, the following level of emissions is achieved-in- practice for a boiler >20 MMBtu/hr:

PM_{10}: Use of PUC quality natural gas fuel

Technologically Feasible:
None

Alternate Basic Equipment:
None

Step 2 - Eliminate technologically infeasible options

There is no technologically infeasible option.

Step 3 - Rank remaining options by control effectiveness

1. Use of PUC quality natural gas fuel

Step 4 - Cost Effectiveness Analysis

There is no technically feasible option or alternative basic equipment listed in Step 3 (above). Therefore, no further discussion is required.

Step 5 – Select BACT

BACT for the proposed boiler is to use PUC quality natural gas fuel. The applicant has proposed to use PUC quality natural gas. Therefore, BACT requirements are satisfied.

VOC:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:
The following references were consulted to determine emission limits and control required to reduce VOC emissions for boilers rated above 20 MMBtu/hr:

- EPA RACT/BACT/LAER clearinghouse
- CARB BACT clearinghouse
- South Coast AQMD BACT clearinghouse
- Bay Area AQMD BACT clearinghouse
- Sacramento Metro AQMD BACT Clearinghouse

Note that SJVAPCD BACT clearinghouse was not consulted because the BACT requirements are out of date and are being revised at this time. When a boiler triggers BACT, a case-by-case determination is conducted and the results of that determination are considered BACT for that industry.

The following Rules were also consulted:

- South Coast AQMD Rule 1146
- Bay Area AQMD Regulation 7, Rule 9
- Sacramento Metro AQMD Rule 411
- SJVAPCD Rule 4320

A survey of source test results for units located in the SJVAPCD was also conducted. The purpose of the survey was to determine the emission levels that are currently being met. Note that results of limited units with different heat input rating were reviewed.

Survey of BACT Guidelines:

Agency	Heat input rate (MMBtu/hr)	VOC (ppmvd @ 3% O2)
EPA	The EPA RACT/BACT/LAER clearinghouse does not include general guidelines, only determinations done by individual agencies. The NOx and CO ranges are shown in the section below.	
	>20*	3.6 to 19 RBLC ID (3.6 ppm): PA-0291 RBLC ID (19 ppmv): MI-0412
	*Units fired on natural gas and are not equipped with any post-combustion VOC emission control equipment.	
CARB	The CARB clearinghouse does not include general guidelines, only individual determinations done by individual districts. None of the determinations are more stringent than most stringent standards shown below so the CARB data will not be listed.	
SCAQMD	≥ 20	None
BAAQMD	5 to < 33.5	None
SMAQMD	5 to < 25	None

Survey of Applicable Rules:

Agency	Heat input rate (MMBtu/hr)	VOC (lb/MMBtu)
SCAQMD Rule 1146	5 to < 75	None
BAAQMD Reg 9 Rule 7	≥ 20 load following	None
	≥ 20 to < 75	None
SMAQMD Rule 411	> 20	None
SJVAPCD Rule 4320	>20	None
EPA	40 CFR Part 60 Subparts Db does not contain VOC emission limits for the proposed boiler unit.	
CARB	No applicable rule	

Survey of Source Tests:
None of the boilers in the table below is tested for VOC emissions. The permitted emissions are summarized in the table.

Facility/Permit #	Heat input rate (MMBtu/hr)	Method to reduce PM10 emissions	Permitted Emissions
			VOC
Georgia Pacific Corrugated LLC (C-568-2-6)	24.494	PUC quality natural gas	0.004 lb/MMBtu
Central California Sheets, LLC (C-8609-3-0)	25.2	PUC quality natural gas	0.0055 lb/MMBtu
Pacific Southwest Container LLC (N-3606-30-1)	20.4	PUC quality natural gas	0.0055 lb/MMBtu
Cal Sheets LLC (N-4195-1-3)	20.925	PUC quality natural gas	10 ppmvd @ 3% O2, as methane

From the review of the above data, the following level of emissions is achieved-in- practice for a boiler >20 MMBtu/hr:

VOC: Use of PUC quality natural gas fuel

<u>Technologically Feasible:</u>
None

Alternate Basic Equipment:
None

Step 2 - Eliminate technologically infeasible options

The use of oxidation catalyst is removed from consideration since use of this emission control equipment will inadvertently reduce the boiler efficiency and will result in an increase in collateral NOx emissions.

Step 3 - Rank remaining options by control effectiveness

1. Use of PUC quality natural gas fuel

Step 4 - Cost Effectiveness Analysis

There is no technically feasible option or alternative basic equipment listed in Step 3 (above). Therefore, no further discussion is required.

Step 5 – Select BACT

BACT for the proposed boiler is to use PUC quality natural gas fuel. The applicant has proposed to use PUC quality natural gas. Therefore, BACT requirements are satisfied.

APPENDIX D

HRA and AAQA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Sajjad Ahmad – Permit Services
From:	Jessica Rosas – Technical Services
Date:	February 15, 2019
Facility Name:	Baker Commodities
Location:	16801 Jensen Ave, Kerman
Application #(s):	C-72-11-0
Project #:	C-1183435

A. RMR SUMMARY

RMR Summary						
Units	**Prioritization Score**	**Acute Hazard Index**	**Chronic Hazard Index**	**Maximum Individual Cancer Risk**	**T-BACT Required?**	**Special Permit Requirements?**
Unit 11-0 (NG Boiler)	0.198	0.00	0.00	4.36E-08	No	Yes
Project Totals	0.198	0.00	0.00	4.36E-08		
Facility Totals	>1	0.195	0.00	3.77E-07		

Proposed Permit Requirements

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

Unit # 11-0

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

B. RMR REPORT

I. Project Description

Technical Services received a request on January 29, 2019, to perform a Risk Management Review for a proposed installation of a 30.3 MMBtu/hr Natural Gas-fired boiler with an Ultra-low-Nox burner and Selective Catalytic Reduction (SCR).

II. Analysis

Toxic emissions for this natural gas-fired boiler were calculated using Ventura County's Air Pollution Control District's emission factors for Natural Gas Fired external combustion, and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2007-2011 from Mendota to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 11-0			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	10.97	**Closest Receptor (m)**	145
Stack Diameter. (m)	0.76	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	11.80		
Stack Exit Temp. (°K)	494	**Fuel Type**	NG
Fuel Usage (mmscf/hr)	0.0303	**Fuel Usage (mmscf/yr)**	265

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

Unit #	**NO_x (Lbs.)**		**SO_x (Lbs.)**		**CO (Lbs.)**		**PM_{10} (Lbs.)**	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
11-0	1.38	921	0.18	756	0.44	1,964	0.18	796

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

	Background Site	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Clovis-Villa (2016)	NA[1]	X	NA[1]	X	X
NO_x	Clovis-Villa (2016)	NA[1]	X	X	X	Pass
SO_x	Fresno – Garland (2016)	NA[1]	NA[1]	X	NA[1]	Pass
PM_{10}	Clovis-Villa (2016)	X	X	X	NA[1]	Pass[2]
$PM_{2.5}$	Clovis-Villa (2016)	X	X	X	NA[1]	Pass[3]

*Results were taken from the attached PSD spreadsheet.
[1]The project is an intermittent source as defined in APR-1920. In accordance with APR-1920, compliance with short-term (i.e., 1-hour, 3-hour,8-hour and 24-hour) standards is not required.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).
[3]The court has vacated EPA's $PM_{2.5}$ SILs. Until such time as new SIL values are approved, the District will use the corresponding PM_{10} SILs for both PM_{10} and $PM_{2.5}$ analyses.

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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

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

IV. Attachments

A. RMR request form and attachments
B. Convert
C. Prioritization score w/ toxic emissions summary
D. Facility Summary

APPENDIX E

Compliance Certification

Baker Commodities Inc.
Recycling for Life

February 11, 2019

San Joaquin Valley Air Pollution Control District
Central Region Office
Attention: Sajjad Ahmad
1990 East Gettysburg Avenue
Fresno, California 93726-0244

Subject: **Compliance Certification**
Baker Commodities – Facility C-72

Mr. Ahmad:

Based on information and belief after reasonable inquiry, all major Stationary Sources owned and operated by Baker Commodities, Inc. in California, which are subject to emission limitations are in compliance with all applicable emission limitations and standards. New equipment will comply with applicable federal requirements. Corrected information will be provided upon finding that incorrect or incomplete information has been submitted.
All submitted information and certifications are true, accurate and complete.
I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true.
Sincerely,

David Rocha
Plant Manager
Baker Commodities, Inc.

APPENDIX F

ERC Withdrawal Calculations

NOx	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
ERC S-4641-2	14,283	649	2,200	4,032
Offsets Required (Includes distance offset ratio)	345	346	346	345
Amount Remaining	13,938	303	1,854	3,687
Credits reissued under ERC S-YYYY-2	13,938	303	1,854	3,687