



MAY 07 2014

Mr. Roger Hoffdahl
Ingredion Incorporated
P O Box 6129
Stockton, CA 95206-0129

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-238
Project # N-1141447**

Dear Mr. Hoffdahl:

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. This project involves modifications to the existing boiler permit N-238-41 to correct heat input rating and establish daily and annual heat input limits, and a proposal to install a new 28.8 MMBtu/hr natural gas-fired boiler.

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. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjolle
Director of Permit Services

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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This facility is a Major Source for NO_x, CO, VOC and greenhouse gas (GHG) emissions. The facility is operating under Title V permit. This project triggers a public notice since the project is a Federal Major Modification per District Rule 2201, and it is a "Significant Modification" under District Rule 2520. Therefore, this project will be published in the local newspaper, Stockton Record, for public review and comment. The public comment period will last 30 days from the date of publication. The facility has also proposed to obtain ATCs with Certificate of Conformity (COC), which is EPA's 45-day review before the issuance of final ATCs. Both COC and public notice will run concurrently.

II. APPLICABLE RULES

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (11/26/12)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (02/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92)
Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)
Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2 (8/21/03)
Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3 (3/17/05)
Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters greater than 5.0 MMBtu/hr (10/16/08)
Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03)
Rule 4801 Sulfur Compounds (12/17/92)
California Health & Safety Code 41700 (Public Nuisance)
California Health & Safety Code 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

This facility is located at 1021 Industrial Drive, Stockton, California. The boilers are not located within 1,000 feet of any K-12 school. Therefore, the project will

not trigger the school and public noticing requirements under California Health & Safety Code 42301.6.

IV. PROCESS DESCRIPTION

The boilers will provide steam to various processes in the corn wet milling plant.

V. EQUIPMENT LISTING

Pre-Project Equipment Description

Permit #	Equipment Description
N-238-41-0	178 MMBTU/HR ZURN MODEL 22M KEYSTONE AUXILIARY BOILER WITH A TODD MODEL RMB ULTRA LOW NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM

Post-Project Equipment Description

Permit #	Equipment Description
N-238-41-1	185 MMBTU/HR ZURN MODEL 22M KEYSTONE AUXILIARY BOILER WITH A TODD MODEL RMB ULTRA LOW NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM
N-238-42-0	28.8 MMBTU/HR HURST MODEL S2X-G-650-250 (OR EQUIVALENT MANUFACTURER AND MODEL) BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 (OR EQUIVALENT MANUFACTURER OR MODEL) BURNER SYSTEM

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

N-238-41-1 and '-42-0

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

In addition, the use of flue gas re-circulation (FGR) on unit N-238-41 can reduce nitrogen oxides (NO_x) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since high flame temperatures form thermal NO_x, the lower flame temperatures produced by FGR serve to reduce thermal NO_x.

VII. CALCULATIONS

A. Assumptions

- Assumptions will be stated as they are made during the evaluation.

B. Emission Factors (EF)

1. Pre-Project Emission Factors (EF1)

N-238-41-0

Pollutant	EF1		Source
	lb/MMBtu	ppmvd @ 3% O ₂	
NO _x	0.008	7.0	N-238-41-0
SO _x	0.0029	--	
PM ₁₀	0.0076	--	
CO	0.037	50	
VOC	0.001	3	
CO ₂ e	116.6	--	CARB's GHG factor sheet (3/10)

N-238-42-0

No EFs exist at this point.

2. Post-Project Emission Factors (EF2)

N-238-41-1

The applicant is not proposing any changes to the existing emission factors. Thus, EF2 will be same as EF1.

N-238-42-0

Pollutant	EF2		Source
	lb/MMBtu	ppmvd @ 3% O ₂	
NO _x	0.008	7	Applicant's proposal
SO _x	0.00285	--	District Policy APR-1720
PM ₁₀	0.0076	--	EPA's AP-42 Table 1.4-2 (7/98)
CO	0.037	50	Applicant's proposal
VOC	0.004	10	
CO ₂ e	116.6	--	CARB' GHG factor sheet (3/10)

C. Potential to Emit

1. Pre-Project Potential to Emit (PE1)

N-238-41-0

NO_x, SO_x, PM₁₀, CO and VOC:

$$\begin{aligned} \text{PE1 (lb/day)} &= \text{EF1 lb/MMBtu} \times 178 \text{ MMBtu/hr} \times 24 \text{ hr/day} \\ \text{PE1 (lb/yr)} &= \text{EF1 lb/MMBtu} \times 178 \text{ MMBtu/hr} \times 8,760 \text{ hr/yr} \end{aligned}$$

CO₂e:

$$\text{PE1 (tons/yr)} = \text{EF1 lb/MMBtu} \times 178 \text{ MMBtu/hr} \times 8,760 \text{ hr/yr} \times \text{ton/2,000 lb}$$

Pollutant	EF1 (lb/MMBtu)	PE1 (lb/day)	PE1 (lb/yr)
NO _x	0.008	34.2	12,474
SO _x	0.0029	12.4	4,522
PM ₁₀	0.0076	32.5	11,851
CO	0.037	158.1	57,693
VOC	0.001	4.3	1,559
CO ₂ e	116.6	--	90,906 tons/yr

N-238-42-0

PE1 = 0

2. Post-Project Potential to Emit (PE2)

N-238-41-1

The applicant has proposed to establish a heat input rate of 178 MMBtu/hr, and maintain hourly fuel records to ensure compliance with this

heat input rate. Furthermore, the applicant wants to retain the annual potential emissions based on the use of 178 MMBtu/hr for 8,760 hours. Therefore, there would not be any change to hourly, daily, or annual emissions.

N-238-42-0

NO_x, SO_x, PM₁₀, CO and VOC:

$$\begin{aligned} \text{PE2 (lb/day)} &= \text{EF2 lb/MMBtu} \times 28.8 \text{ MMBtu/hr} \times 24 \text{ hr/day} \\ \text{PE2 (lb/yr)} &= \text{EF2 lb/MMBtu} \times 28.8 \text{ MMBtu/hr} \times 8,760 \text{ hr/yr} \end{aligned}$$

CO_{2e}:

$$\text{PE2 (tons/yr)} = \text{EF2 lb/MMBtu} \times 28.8 \text{ MMBtu/hr} \times 8,760 \text{ hr/yr} \times \text{ton/2,000 lb}$$

Pollutant	EF2 (lb/MMBtu)	PE2 (lb/day)	PE2 (lb/yr)
NO _x	0.008	5.5	2,018
SO _x	0.00285	2.0	732
PM ₁₀	0.0076	5.3	1,917
CO	0.037	25.6	9,335
VOC	0.004	2.8	1,009
CO _{2e}	116.6	--	14,708 tons/yr

N-238-41-1 and '-42-0 (Combined)

The applicant has proposed to establish combined daily and annual heat input rate for both N-238-41 and '-42 as follows:

Daily heat input: 4,272 MMBtu
Annual heat input: 1,559,280 MMBtu

$$\begin{aligned} \text{PE2 (lb/day)} &= \text{EF2 lb/MMBtu} \times 4,272 \text{ MMBtu/day} \\ \text{PE2 (lb/yr)} &= \text{EF2 lb/MMBtu} \times 1,559,280 \text{ MMBtu/yr} \end{aligned}$$

CO_{2e}:

$$\text{PE2 (tons/yr)} = \text{EF2 lb/MMBtu} \times 1,559,280 \text{ MMBtu/yr} \times \text{ton/2,000 lb}$$

Pollutant	EF2 (lb/MMBtu)	PE2 (lb/day)	PE2 (lb/yr)
NO _x	0.008	34.2	12,474
SO _x	0.00285	12.4	4,522
PM ₁₀	0.0076	32.5	11,851
CO	0.037	158.1	57,693
VOC	0.004	4.3	1,559
CO ₂ e	116.6	--	90,906 tons/yr

3. Quarterly Emissions Changes (QEC)

This calculation is required for application's emission profile, which is used for the District's internal tracking purposes. QECs are estimated as follows:

$$QEC = (PE2 - PE1)/4$$

There is no increase in facility's overall emissions due to this project. Therefore, QEC will be zero.

4. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine if BACT is required for emission units that are being modified. AIPE is calculated using the equations mentioned in Section 4.3 and 4.4 of Rule 2201.

$$AIPE = PE2 - \left(\frac{EF2}{EF1} \right) (PE1)$$

N-238-41-1

The AIPE due to the proposed modifications to this unit are summarized in the following table.

Pollutant	PE2 (lb/day)	*EF2/EF1	PE1 (lb/day)	AIPE (lb/day)
NO _x	34.2	1	34.2	0.0
SO _x	12.4	1	12.4	0.0
PM ₁₀	32.5	1	32.5	0.0
CO	158.1	1	158.1	0.0
VOC	4.3	1	4.3	0.0

*EF2/EF1 ratio is conservatively assumed to be 1.

N-238-42-0

This is a new emissions unit. Therefore, AIPE calculations are not required.

D. Facility Emissions

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

Pursuant to Section 4.9 of District Rule 2201, SSPE1 is the Potential to Emit 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 (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions (AERs) that have occurred at the source, and which have not been used on-site.

The potential emissions for each permit unit are taken from the application review under project N-1123028 except for the potential for unit N-238-41-0 and the potential emissions PM₁₀ emissions for each permit unit. The potential PM₁₀ for each unit are taken from the worksheet under project N-1122754.

SSPE1 (lb/yr)					
Permit #	NO _x	SO _x	PM ₁₀	CO	VOC
N-238-1-5	0	0	17,047	0	0
N-238-2-3	0	0	2,118	0	0
N-238-8-2	0	0	315	0	0
N-238-9-5	0	0	219	0	0
N-238-10-7	8,833	511	28,032	52,597	7,300
N-238-11-3	0	0	359	0	0
N-238-12-2	0	0	359	0	0
N-238-13-6	0	4,840	5,431	0	16,644
N-238-14-2	0	0	377	0	0
N-238-15-2	0	0	858	0	0
N-238-16-2	0	0	88	0	0
N-238-17-2	0	0	88	0	0
N-238-18-6	24,565	1,095	2,519	102,273	803
N-238-19-6	0	0	2	0	0
N-238-24-6 and N-238-33-3	0	10,950	9,125	0	2,884
N-238-25-4	0	1,284	0	0	24,791
N-238-29-3	0	767	0	0	0

Continue...

SSPE1 (lb/yr)					
Permit #	NO _x	SO _x	PM ₁₀	CO	VOC
N-238-30-2	0	0	37	0	0
N-238-36-0	0	0	0	0	0
N-238-41-0	12,474	4,522	11,851	57,693	1,559
SSPE1 (lb/yr)	45,872	23,969	78,825⁴	212,563	53,981

2. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) 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 that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/yr)					
Permit #	NO _x	SO _x	PM ₁₀	CO	VOC
N-238-1-5	0	0	17,047	0	0
N-238-2-3	0	0	2,118	0	0
N-238-8-2	0	0	315	0	0
N-238-9-5	0	0	219	0	0
N-238-10-7	8,833	511	28,032	52,597	7,300
N-238-11-3	0	0	359	0	0
N-238-12-2	0	0	359	0	0
N-238-13-6	0	4,840	5,431	0	16,644
N-238-14-2	0	0	377	0	0
N-238-15-2	0	0	858	0	0
N-238-16-2	0	0	88	0	0
N-238-17-2	0	0	88	0	0
N-238-18-6	24,565	1,095	2,519	102,273	803
N-238-19-6	0	0	2	0	0
N-238-24-6 and N-238-33-3	0	10,950	9,125	0	2,884

⁴Facility N-238 has a facility-wide SLC of 200 lb/day for PM emissions, which equates to 73,000 lb/yr. The project consultant is advised to revise this limit, which is expected to occur under separate project.

Continue...

SSPE2 (lb/yr)					
Permit #	NO _x	SO _x	PM ₁₀	CO	VOC
N-238-25-4	0	1,284	0	0	24,791
N-238-29-3	0	767	0	0	0
N-238-30-2	0	0	37	0	0
N-238-36-0	0	0	0	0	0
N-238-41-1 and '- 42-0	12,474	4,522	11,851	57,693	1,559
SSPE2 (lb/yr)	45,872	23,969	78,825	212,563	53,981

3. 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)					
Category	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	45,872	23,969	78,825	212,563	53,981
SSPE2	45,872	23,969	78,825	212,563	53,981
Major Source Thresholds	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	Yes	Yes

From the above table, the facility is an existing Major Source for NO_x, CO and VOC emissions.

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)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
Category	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Estimated Facility PE before Project Increase	22.9	27.0	12.0	106.3	39.4	39.4	123,797 ⁵
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ?	No	No	No	No	No	No	Yes

From the above table, the facility is an existing major source for PSD for GHG.

4. Stationary Source Increase in Permitted Emissions (SSIPE)

The District practice is to define SSIPE as the difference of SSPE2 and SSPE1. Negative SSIPE values will be equated zero.

Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
NO _x	45,872	45,872	0
SO _x	23,969	23,969	0
PM ₁₀	78,825	78,825	0
CO	212,563	212,563	0
VOC	56,981	56,981	0

5. SB-288 Major Modification

The purpose of Major Modification calculations is to determine the following:

- A. If Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification (District Rule 2201, §4.1.3); and
- B. If a public notification is triggered (District Rule 2201, §5.4.1).

⁵CO_{2e} emissions = (116.6 lb-CO_{2e}/MMBtu)(21 MMBtu/hr dryer under permit N-238-10-7 + 43.403 MMBtu/hr turbine under permit N-238-18-6 + 178 MMBtu/hr boiler under permit N-238-41-0)(8,760 hr/yr)(ton/2,000 lb) = 123,797 tons-CO_{2e}/yr

Per section VII.D.3 of this document, this facility is a Major Source for NO_x, CO and VOC emissions. Thus, analysis is required to determine if this project triggers an SB-288 Major Modification. Note that the San Joaquin Valley air basin is in attainment for CO; therefore, no CO significance threshold value is listed in Rule 2201. This analysis will be limited to NO_x and VOC emissions.

To determine if the proposed project triggers an SB-288 major modification, net emission increase (NEI) is calculated by determining the sum of the difference of PE2 and historical emissions (HE) of all the units involved in the project. This NEI value is then compared with the SB 288 major modification thresholds of 50,000 lb-NO_x/yr and 50,000 lb-VOC/yr.

$$NEI = \sum(PE2 - HE)$$

NEI would be highest if HE is set equal zero. Thus,

$$\begin{aligned} NEI_{NO_x} &= \sum PE2 \\ &= PE2_{N-238-41-1} + PE2_{N-238-42-0} \\ &= 12,474 \text{ lb-NO}_x/\text{yr} < 50,000 \text{ lb-NO}_x/\text{yr} \end{aligned}$$

$$\begin{aligned} NEI_{VOC} &= \sum PE2 \\ &= PE2_{N-238-41-1} + PE2_{N-238-42-0} \\ &= 1,559 \text{ lb-VOC/yr} < 50,000 \text{ lb-VOC/yr} \end{aligned}$$

NEI for NO_x and VOC emissions are less than the SB 288 major modification thresholds. Therefore, this project will not trigger an SB 288 major modification.

6. 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.

N-238-41-1

The proposed modifications include correction to the hourly heat input rate to solely match the heat input rating on the name plate, and to establish combined daily and annual heat input limits. These modifications do not include any increase to the design capacity, as the burner currently has a heat input rating of 185 MMBtu/hr (no physical changers are proposed) or potential emissions⁶, and it does not impact the ability of any emission unit

⁶ Note that the applicant still proposes to operate the boiler at or below 178 MMBtu/hr. Therefore, there is no increase in potential emissions.

to operate at a higher utilization rate (and there are no increase in existing physical or legal limitations on the unit's ability to operate at a higher utilization rate). Therefore, the emission increase (projected actual emissions – actual emissions) from this unit is presumed to be zero.

N-238-42-0

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

Emissions Increase = 2,018 lb-NOx/yr > 0 lb-NOx/yr
= 1,009 lb-VOC/yr > 0 lb-VOC/yr

Summary:

The project's emission increase exceeds 0 lb/yr thresholds for Federal Major Modification for NOx and VOC emissions. Therefore, this project is a Federal Major Modification.

VIII. COMPLIANCE

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

BACT requirements shall be triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis.

Unless exempted pursuant to Section 4.2, BACT shall be required for the following actions⁷:

- Any new emissions unit or relocation from one Stationary Source to another of an existing emissions unit with a Potential to Emit (PE2) exceeding 2.0 pounds in any one day;
- Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds in any one day;
- 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 in this rule.

⁷Except 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

N-238-41-1:

Per section VII.C.4 of this document, AIPE from the proposed modifications is not greater than 2.0 pounds per day. Furthermore, the NO_x and VOC emissions increase calculated under section VII.D.5 and VII.D.6 of this document do not exceed the thresholds for SB-288 Major Modification and Federal Major Modification. Therefore, this unit does not trigger BACT for any pollutant.

N-238-42-0:

Per section VII.C.2 of this document, PE2 is greater than 2.0 lb/day for NO_x, PM₁₀, CO and VOC emissions. Thus, BACT is triggered for these pollutants.

The District conducts project-specific analyses for boilers similar to the one proposed in this project. BACT for units greater than 20 MMBtu/hr operating in a steady-state mode is as follows:

NO_x: 7.0 ppmvd @ 3% O₂ (or less) – Achieved-in-practice
 5.0 ppmvd @ 3% O₂ (or less) – Technologically feasible
 PM₁₀, CO, VOC: Use of PUC quality natural gas

Based on the “Top-Down BACT Analysis” in Appendix II of this document, the applicant’s proposal to comply with 7.0 ppmvd NO_x @ 3% O₂ (or less) and use of PUC quality natural gas would satisfy the BACT for NO_x, PM₁₀, CO and VOC emissions.

B. Offsets

Offsets are examined on pollutant-by-pollutant basis. The following table summarizes SSPE2, offset thresholds, and whether or not offsets are triggered.

Category	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2 (lb/yr)	45,872	23,969	78,825	212,563	53,981
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	Yes	No	Yes	Yes	Yes

NO_x:

Section 4.7.1 of Rule 2201 states that for pollutants with SSPE1 greater than the emission offset threshold levels, emission offsets shall be provided for all increases in Stationary Source emissions, calculated as the differences of post-project Potential to Emit (PE2) and the Baseline Emissions (BE) of all new and modified emissions units, plus all increases in Cargo Carrier emissions. Thus,

EOQ = $\Sigma(\text{PE2} - \text{BE}) + \text{ICCE}$, where

PE2 = Post-Project Potential to Emit (lb/yr)
 BE = Baseline Emissions (lb/yr)
 ICCE = Increase in Cargo Carrier emissions (lb/yr)

There is no increase in Cargo Carrier emissions from this project. Thus,

$$\begin{aligned} \text{EOQ} &= \Sigma(\text{PE2} - \text{BE}) \\ &= (\text{PE2} - \text{BE})_{\text{N-238-41}} + (\text{PE2} - \text{BE})_{\text{N-238-42}} \end{aligned}$$

Per section 3.8 of Rule 2201, BE can be set equal to PE1 for any Clean Emission Unit (CEU), located at a Major Source, provided that if the unit has a SLC, all units under the SLC also qualify as CEUs. CEU is defined in Section 3.13 of Rule 2201, as an emission unit that is either equipped with an emission control technology with a minimum control efficiency of at least 95% or equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

The unit under permit N-238-41 is found to be a CEU as it is operating below the achieved-in-practice BACT level of 7 ppmvd @ 3% O2 based on the latest source test results of December 2011. Therefore, BE is set equal to PE1 for this unit.

$$\begin{aligned} \text{EOQ} &= (\text{PE2} - \text{PE1})_{\text{N-238-41}} + (\text{PE2} - \text{BE})_{\text{N-238-42}} \\ &= (\text{PE2}_{\text{N-238-41}} + \text{PE2}_{\text{N-238-42}}) - (\text{PE1}_{\text{N-238-41}} + \text{BE}_{\text{N-238-42}}) \end{aligned}$$

The applicant has proposed to establish combined limit for unit N-238-41 and '-42 equal to the potential to emit for unit N-238-41. Thus,

$$\begin{aligned} \text{PE2}_{\text{N-238-41}} + \text{PE2}_{\text{N-238-42}} &= 12,474 \text{ lb-NO}_x/\text{yr} \\ \text{PE1}_{\text{N-238-41}} &= 12,474 \text{ lb-NO}_x/\text{yr} \\ \text{BE}_{\text{N-238-42}} &= 0 \text{ lb-NO}_x/\text{yr, new unit} \end{aligned}$$

$$\begin{aligned} \text{EOQ} &= (12,474 \text{ lb-NO}_x/\text{yr}) - (12,474 \text{ lb-NO}_x/\text{yr} + 0 \text{ lb-NO}_x/\text{yr}) \\ &= 0 \text{ lb-NO}_x/\text{yr} \end{aligned}$$

PM₁₀:

Section 4.7.1 of Rule 2201 states that for pollutants with SSPE1 greater than the emission offset threshold levels, emission offsets shall be provided for all increases in Stationary Source emissions, calculated as the differences of post-project Potential to Emit (PE2) and the Baseline Emissions (BE) of all new and modified emissions units, plus all increases in Cargo Carrier emissions. Thus,

EQO = $\Sigma(\text{PE2} - \text{BE}) + \text{ICCE}$, where

PE2 = Post-Project Potential to Emit (lb/yr)

BE = Baseline Emissions (lb/yr)

ICCE = Increase in Cargo Carrier emissions (lb/yr)

There is no increase in Cargo Carrier emissions from this project. Thus,

$$\begin{aligned} \text{EQO} &= \Sigma(\text{PE2} - \text{BE}) \\ &= (\text{PE2} - \text{BE})_{\text{N-238-41}} + (\text{PE2} - \text{BE})_{\text{N-238-42}} \end{aligned}$$

Per section 3.8 of Rule 2201, BE can be set equal to PE1 for any Clean Emission Unit (CEU), located at a Major Source, provided that if the unit has a SLC, all units under the SLC also qualify as CEUs. CEU is defined in Section 3.13 of Rule 2201, as an emission unit that is either equipped with an emission control technology with a minimum control efficiency of at least 95% or equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

The unit under permit N-238-41 complies with the achieved-in-practice BACT standard since the unit is fired on natural gas. Therefore, BE is set equal to PE1.

$$\begin{aligned} \text{EQO} &= (\text{PE2} - \text{PE1})_{\text{N-238-41}} + (\text{PE2} - \text{BE})_{\text{N-238-42}} \\ &= (\text{PE2}_{\text{N-238-41}} + \text{PE2}_{\text{N-238-42}}) - (\text{PE1}_{\text{N-238-41}} + \text{BE}_{\text{N-238-42}}) \end{aligned}$$

The applicant has proposed to establish combined limit for unit N-238-41 and '-42 equal to the potential to emit for unit N-238-41. Thus,

$$\text{PE2}_{\text{N-238-41}} + \text{PE2}_{\text{N-238-42}} = 11,851 \text{ lb-PM}_{10}/\text{yr}$$

$$\text{PE1}_{\text{N-238-41}} = 11,851 \text{ lb-PM}_{10}/\text{yr}$$

$$\text{BE}_{\text{N-238-42}} = 0 \text{ lb-PM}_{10}/\text{yr, new unit}$$

$$\begin{aligned} \text{EQO} &= (11,851 \text{ lb-PM}_{10}/\text{yr}) - (11,851 \text{ lb-PM}_{10}/\text{yr} + 0 \text{ lb-PM}_{10}/\text{yr}) \\ &= 0 \text{ lb-PM}_{10}/\text{yr} \end{aligned}$$

CO:

Section 4.7.1 of Rule 2201 states that for pollutants with SSPE1 greater than the emission offset threshold levels, emission offsets shall be provided for all increases in Stationary Source emissions, calculated as the differences of post-project Potential to Emit (PE2) and the Baseline Emissions (BE) of all new and modified emissions units, plus all increases in Cargo Carrier emissions. Thus,

EOQ = $\Sigma(\text{PE2} - \text{BE}) + \text{ICCE}$, where

PE2 = Post-Project Potential to Emit (lb/yr)

BE = Baseline Emissions (lb/yr)

ICCE = Increase in Cargo Carrier emissions (lb/yr)

There is no increase in Cargo Carrier emissions from this project. Thus,

$$\begin{aligned} \text{EOQ} &= \Sigma(\text{PE2} - \text{BE}) \\ &= (\text{PE2} - \text{BE})_{\text{N-238-41}} + (\text{PE2} - \text{BE})_{\text{N-238-42}} \end{aligned}$$

Per section 3.8 of Rule 2201, BE can be set equal to PE1 for any Clean Emission Unit (CEU), located at a Major Source, provided that if the unit has a SLC, all units under the SLC also qualify as CEUs. CEU is defined in Section 3.13 of Rule 2201, as an emission unit that is either equipped with an emission control technology with a minimum control efficiency of at least 95% or equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

The unit under permit N-238-41 complies with the achieved-in-practice BACT standard since the unit is fired on natural gas. Therefore, BE is set equal to PE1.

$$\begin{aligned} \text{EOQ} &= (\text{PE2} - \text{PE1})_{\text{N-238-41}} + (\text{PE2} - \text{BE})_{\text{N-238-42}} \\ &= (\text{PE2}_{\text{N-238-41}} + \text{PE2}_{\text{N-238-42}}) - (\text{PE1}_{\text{N-238-41}} + \text{BE}_{\text{N-238-42}}) \end{aligned}$$

The applicant has proposed to establish combined limit for unit N-238-41 and '-42 equal to the potential to emit for unit N-238-41. Thus,

$$\text{PE2}_{\text{N-238-41}} + \text{PE2}_{\text{N-238-42}} = 57,693 \text{ lb-CO/yr}$$

$$\text{PE1}_{\text{N-238-41}} = 57,693 \text{ lb-CO/yr}$$

$$\text{BE}_{\text{N-238-42}} = 0 \text{ lb-CO/yr, new unit}$$

$$\begin{aligned} \text{EOQ} &= (57,693 \text{ lb-CO/yr}) - (57,693 \text{ lb-CO/yr} + 0 \text{ lb-CO/yr}) \\ &= 0 \text{ lb-CO/yr} \end{aligned}$$

VOC:

Section 4.7.1 of Rule 2201 states that for pollutants with SSPE1 greater than the emission offset threshold levels, emission offsets shall be provided for all increases in Stationary Source emissions, calculated as the differences of post-project Potential to Emit (PE2) and the Baseline Emissions (BE) of all new and modified emissions units, plus all increases in Cargo Carrier emissions. Thus,

EOQ = $\Sigma(\text{PE2} - \text{BE}) + \text{ICCE}$, where

PE2 = Post-Project Potential to Emit (lb/yr)

BE = Baseline Emissions (lb/yr)

ICCE = Increase in Cargo Carrier emissions (lb/yr)

There is no increase in Cargo Carrier emissions from this project. Thus,

$$\begin{aligned} \text{EOQ} &= \Sigma(\text{PE2} - \text{BE}) \\ &= (\text{PE2} - \text{BE})_{\text{N-238-41}} + (\text{PE2} - \text{BE})_{\text{N-238-42}} \end{aligned}$$

Per section 3.8 of Rule 2201, BE can be set equal to PE1 for any Clean Emission Unit (CEU), located at a Major Source, provided that if the unit has a SLC, all units under the SLC also qualify as CEUs. CEU is defined in Section 3.13 of Rule 2201, as an emission unit that is either equipped with an emission control technology with a minimum control efficiency of at least 95% or equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

The unit under permit N-238-41 complies with the achieved-in-practice BACT standard since the unit is fired on natural gas. Therefore, BE is set equal to PE1.

$$\begin{aligned} \text{EOQ} &= (\text{PE2} - \text{PE1})_{\text{N-238-41}} + (\text{PE2} - \text{BE})_{\text{N-238-42}} \\ &= (\text{PE2}_{\text{N-238-41}} + \text{PE2}_{\text{N-238-42}}) - (\text{PE1}_{\text{N-238-41}} + \text{BE}_{\text{N-238-42}}) \end{aligned}$$

The applicant has proposed to establish combined limit for unit N-238-41 and '-42 equal to the potential to emit for unit N-238-41. Thus,

$$\text{PE2}_{\text{N-238-41}} + \text{PE2}_{\text{N-238-42}} = 1,559 \text{ lb-VOC/yr}$$

$$\text{PE1}_{\text{N-238-41}} = 1,559 \text{ lb-VOC/yr}$$

$$\text{BE}_{\text{N-238-42}} = 0 \text{ lb-VOC/yr, new unit}$$

$$\begin{aligned} \text{EOQ} &= (1,559 \text{ lb-VOC/yr}) - (1,559 \text{ lb-VOC/yr} + 0 \text{ lb-VOC/yr}) \\ &= 0 \text{ lb-VOC/yr} \end{aligned}$$

Based on the above analysis, offsets are not required for NO_x, PM₁₀, CO or VOC emissions.

C. Public Notification

District Rule 2201, section 5.4, requires a public notification for the affected pollutants from the following types of projects:

- New Major Sources
- Major Modifications (SB-288 or Federal)
- New emission units with a PE>100 lb/day of any one pollutant
- Modifications with SSPE1 below an Offset threshold and SSPE2 above an Offset threshold on a pollutant-by-pollutant basis
- New stationary sources with SSPE2 exceeding Offset thresholds
- Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant

Per section VII.D.6 of this document, this project is a Federal Major Modification. Thus, public notice is required for this project.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.17 to restrict a unit's maximum daily emissions. The following DELs will be included in the permits:

N-238-41-1:

- NO_x emissions shall not exceed 7.0 ppmvd @ 3% O₂ (0.008 lb/MMBtu) referenced as NO₂. [District Rules 2201, 4301, 4305, 4306 and 4320]
- SO_x emissions shall not exceed 0.0029 lb/MMBtu. [District Rule 2201]
- PM₁₀ emissions shall not exceed 0.0076 lb/MMBtu. [District Rule 2201]
- CO emissions shall not exceed 50 ppmvd @ 3% O₂ (0.037 lb/MMBtu). [District Rule 2201]
- VOC emissions shall not exceed 3 ppmvd @ 3% O₂ (0.001 lb/MMBtu) referenced as methane. [District Rule 2201]
- The total heat input rate to boilers under permit units N-238-41 and '-42 shall not exceed any of the following limits: 4,272 MMBtu/day and 1,559,280 MMBtu/year. [District Rule 2201]
- The total VOC emissions from permit units N-238-41 and '-42 shall not exceed any of the following limits: 4.3 lb/day and 1,559 lb/year. [District Rule 2201]⁸

⁸This condition is necessary since the VOC emission factors are different for permit units N-238-41 and '-42.

N-238-42-0:

- NO_x emissions shall not exceed 7.0 ppmvd @ 3% O₂ (0.008 lb/MMBtu) referenced as NO₂. [District Rules 2201, 4301, 4305, 4306 and 4320]
- SO_x emissions shall not exceed 0.0029 lb/MMBtu. [District Rule 2201]
- PM₁₀ emissions shall not exceed 0.0076 lb/MMBtu. [District Rule 2201]
- CO emissions shall not exceed 50 ppmvd @ 3% O₂ (0.037 lb/MMBtu). [District Rule 2201]
- VOC emissions shall not exceed 10 ppmvd @ 3% O₂ (0.004 lb/MMBtu) referenced as methane. [District Rule 2201]
- The total heat input rate to boilers under permit units N-238-41 and '-42 shall not exceed any of the following limits: 4,272 MMBtu/day and 1,559,280 MMBtu/year. [District Rule 2201]
- The total VOC emissions from permit units N-238-41 and '-42 shall not exceed any of the following limits: 4.3 lb/day and 1,559 lb/year. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

N-238-41-1:

The applicant is not proposing any changes to the existing emission factors. Therefore, initial testing is not required. The permit requires annual testing consistent with the requirements in the boiler rules 4306 and 4320.

N-238-42-0:

The applicant will be required to perform source testing to measure NO_x and CO emissions within 60 days of initial startup and annually thereafter. Successful compliance demonstration on two consecutive twelve-month periodic tests may defer the following source test up to thirty-six months. This testing frequency is consistent with the requirements in the boiler rules 4306 and 4320.

2. Monitoring

N-238-41-1:

The applicant is not proposing any changes to the existing monitoring requirements. Therefore, the existing requirements will be replicated in the ATC being issued under this project.

N-238-42-0:

The applicant has proposed to monitor NOx, CO and O2 concentrations using portable analyzer on a monthly basis.

3. Recordkeeping

N-238-41-1 and '-42-0:

The applicant will be required to maintain all records to verify compliance with the permitted limits. The records are required to be kept for a period of at least 5 years from the date such record is entered in a logbook.

4. Reporting

N-238-41-1 and '-42-0:

The applicant will be required to submit source test reports within 60 days after completing each source test.

F. Ambient Air Quality Analysis (AAQA)

Pursuant to Section 4.14 of Rule 2201, an AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. The following table shows the summary of AAQA:

Pollutant	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass ¹
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ²	Pass
PM _{2.5}	X	X	X	Pass ²	Pass

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

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

The criteria modeling runs for the proposed new unit indicates that the emissions will not cause or contribute significantly to a violation of the State and National Ambient Air Quality Standards.

G. Compliance Certification

Per Section 4.15 of Rule 2201, "Compliance Certification" and "Alternative Siting Analysis" is required for any project, which constitutes a New Major Source or a Federal Major Modification.

Compliance Certification

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. The compliance certification from the facility is included in Appendix V of this document.

Alternative Siting Analysis

The current project occurs at an existing facility. Since the units will provide steam 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.

Compliance is expected with this Rule.

Rule 2410 Prevention of Significant Deterioration

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM, PM₁₀
- Greenhouse gases (GHG): CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

Step 1:

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not. Per section VII.D.3 of this document, this facility is an existing PSD Major Source.

Step 2:

The second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

I. Project Location Relative to Class 1 Area

This facility is not located within 10 km of a Class 1 area, which in this case is “Yosemite National Park” – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
Category	NO ₂	SO ₂	CO	PM	PM ₁₀	CO _{2e}
N-238-41-1 and '-42-0	6.2	2.3	28.8	5.9	5.9	90,906*
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	No	No	No	No	No	Yes

*CO_{2e} = 116.6 lb-CO_{2e}/MMBtu × 1,559,280 MMBtu/yr × ton/2,000 lb = 90,906 ton-CO_{2e}/yr

As demonstrated above, because the project has a total potential to emit from all new and modified emission units greater than PSD significant emission increase thresholds, further analysis is required to determine if the project has an emission increase greater than the PSD significant emission increase thresholds, see step below.

b. Emission Increase (EI) for Each Attainment/Unclassified Pollutant with a Significant Emission Increase vs PSD Significant Emission Increase Thresholds

In this step, the emission increase for each attainment/unclassified pollutant is compared to the PSD significant emission increase thresholds, and if the emission increase for each attainment pollutant is below this threshold, no further analysis is needed.

For the existing emissions units, the increase in emissions is calculated as follows:

$$EI = PAE - BAE - UBC$$

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

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

N-238-41-1:

Per section VII.D.6 of this document, EI is zero for this permit unit.

N-238-42-0:

The increase due to the new unit is summarized in the following table.

Pollutant	EI (lb/yr)
NO _x	2,018
SO _x	732
PM ₁₀	1,917
CO	9,335
CO _{2e}	14,708 tons/yr

The project's combined total emission increases are compared to the PSD significant emissions increase thresholds in the following table.

PSD Significant Emission Increase Determination: Emission Increase (tons/year)						
Category	NO ₂	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Emission Increases (only)	1.0	0.4	4.7	1.0	1.0	14,708
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	No	No	No	No	No	No

As shown in the table above, the project emission increase, for all new and modified emission units, does not exceed any of the PSD significant emission increase thresholds. Therefore, the project does not result in a

PSD major modification due to a significant emission increase and no further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is a Major Source for NO_x, CO, VOC and GHG emissions. Therefore, this facility is subject to the requirements of this rule. The proposed project is a "Significant Modification" to the Title V permit since the project is a Federal Major Modification per section VII.D.6 of this document. The facility has proposed to process this project with COC. The following conditions will be included in the permits:

- 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]
- 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]

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and
- The source's suggested draft permit (Appendix I of this document) and
- Certification by a responsible official that the proposed modification meets the criteria for use of major permit modification procedures and a request that such procedures be used (Appendix V of this document).

Section 5.3.4 of this rule requires the permittee shall file an application for administrative permit amendments prior to implementing the requested change except when allowed by the operational flexibility provisions of section 6.4 of this rule. The facility is expected to notify the District by filing TV Form-008 upon implementing the ATC. The District Compliance Division is expected to submit a change order to implement ATC into Permit to Operate (PTO).

Compliance is expected with this Rule.

Rule 4001 New Source Performance Standards

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

The requirements of the Code of Federal Regulations, Chapter 40 (40 CFR), Part 60, Subpart Db applies to any steam generating unit with a maximum heat input of greater than 100 MMBtu/hr that has commenced construction, modification, or reconstruction after June 19, 1984.

N-238-41-1:

The proposed modifications will not result in an increase in hazardous air pollutants from this unit. Therefore, no further evaluation is required.

N-238-42-0:

This unit is not subject to the above subpart.

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 SO_x and PM₁₀.

This boiler will be installed sometime this year. Therefore, this unit is subject to the above listed subpart.

60.42c – Standards for Sulfur Dioxide

Since coal is not combusted in the proposed boiler, the requirements of this section are not applicable.

60.43c – Standards for Particulate Matter

The boiler is not fired on coal, combusts mixtures of coal with other fuels, combusts wood, combusts mixture of wood with other fuels, or oil; therefore it will not be subject to the requirements of this section.

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

The proposed boiler is not subject to the sulfur dioxide requirements of this subpart. Therefore, this section is not applicable to this unit.

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

The proposed boiler is not subject to the particulate matter requirements of this subpart. Therefore, this section is not applicable to this unit.

60.46c – Emission Monitoring for Sulfur Dioxide

The proposed boiler is not subject to the sulfur dioxide requirements of this subpart. Therefore, this section is not applicable to this unit.

60.47c – Emission Monitoring for Particulate Matter

The proposed boiler is not subject to the particulate matter requirements of this subpart. Therefore, this section is not applicable to this unit.

60.48c – Reporting and Recordingkeeping 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 will be listed on the permit. No conditions are required to show compliance with this requirement.

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

This requirement is not applicable since the unit is not subject to §60.42c or §60.43c.

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

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

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

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

Section 60.48c(g) states that the owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. The following conditions will be listed in the permit to assure compliance with this section.

- 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. [District Rule 2201 and 40 CFR 60.48c(g)]
- The permittee shall maintain daily records of the type and quantity of fuel combusted by the boiler. [District Rule 2201 and 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.

District Rules 4306 and 4320 require that all records shall be kept for at least five years. Therefore, compliance is expected with this section.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

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. As demonstrated in Appendix IV of this document, this facility is an Area Source of HAP emissions. Therefore, the requirements of Subpart DDDDD are not applicable to the proposed boiler.

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 proposed boiler meets the definition of a gas-fired boiler as it is only fired on natural gas fuel. Therefore, Subpart JJJJJJ requirements are not applicable.

Rule 4101 Visible Emissions

Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity. The following condition will be included in each permit:

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

Compliance is expected with this Rule.

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. The following condition will be placed on each permit:

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

California Health & Safety Code 41700 - Health Risk Assessment

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District performs an analysis to determine the possible impact to the nearest resident or worksite. The risk management review analysis is summarized in the following table:

Risk Management Review Summary			
Categories	Two Boilers (Units 41-1 & 42-0)	Project Totals	Facility Totals
Prioritization Score	0.25*	0.25	>1
Acute Hazard Index	0.00	0.00	0.12
Chronic Hazard Index	0.00	0.00	0.05
Maximum Individual Cancer Risk	3.79E-08	3.97E-08	3.97E-08
T-BACT Required?	No		
Special Permit Conditions?	No		

*The prioritization score was less than one, however, the total facility score is greater than one.

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

Compliance is expected with this Rule.

Rule 4201 Particulate Matter Concentration

Section 3.0 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

N-238-41-1:

The proposed modifications will not result in an increase in particulate matter emissions; therefore, continued compliance is expected.

N-238-42-0:

PM₁₀ emissions = 0.219 lb-PM₁₀/hr (0.0076 lb/MMBtu × 28.8 MMBtu/hr)
 Fraction (lb-PM₁₀/lb-PM) = 100 %
 Exhaust Temperature = 450°F
 Exhaust flow rate = 13,267 acfm
 Moisture in exhaust = 7% (assumed)

$$PM\left(\frac{gr}{dscf}\right) = \frac{\left(0.219 \frac{lb-PM}{hr}\right)\left(7,000 \frac{gr-PM}{lb-PM}\right)\left(\frac{hr}{60 \text{ min}}\right)}{\left(13,267 \frac{ft^3}{min}\right)\left(\frac{459.67 + 60}{459.67 + 450}\right)(1 - 0.07)} = 0.004 \frac{gr-PM}{dscf}$$

The following condition will be listed in the permit:

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

Compliance is expected with this Rule.

Rule 4301 Fuel Burning Equipment

The requirements of section 5.0 are as follows:

- Combustion contaminants (TSP) - Not to exceed 0.1 gr/dscf @ 12% CO₂ and 10 lb/hr.
- SO_x emissions - Not to exceed 200 lb/hr
- NO_x emissions - Not to exceed 140 lb/hr

N-238-41-1:

The proposed modifications will not result in an increase in NO_x, SO_x or particulate matter emissions; therefore, continued compliance is expected.

N-238-42-0:

$$\begin{aligned} \text{NO}_x \text{ (lb/hr)} &= (0.008 \text{ lb/MMBtu})(28.8 \text{ MMBtu/hr}) \\ &= 0.2 \text{ lb/hr} \end{aligned}$$

$$\begin{aligned} \text{SO}_x \text{ (lb/hr)} &= (0.00285 \text{ lb/MMBtu})(28.8 \text{ MMBtu/hr}) \\ &= 0.1 \text{ lb/hr} \end{aligned}$$

$$\begin{aligned} \text{PM} \left(\frac{\text{gr}}{\text{dscf}} \right) &= \frac{\text{PM Emissions} \left(\frac{\text{lb - PM}}{\text{MMBtu}} \right) \times 7,000 \frac{\text{gr - PM}}{\text{lb - PM}}}{F_{\text{factor CO}_2} \left(\frac{\text{dscf}}{\text{MMBtu}} \right) \times \left(\frac{100\%}{12\%} \right)} \\ &= \frac{\left(0.0076 \frac{\text{lb - PM}}{\text{MMBtu}} \right) \left(7,000 \frac{\text{gr - PM}}{\text{lb - PM}} \right)}{\left(1,024.2 \frac{\text{dscf}}{\text{MMBtu}} \right) \left(\frac{100\%}{12\%} \right)} \\ &= 0.006 \frac{\text{gr - PM}}{\text{dscf}} \end{aligned}$$

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

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

Pursuant to District Rules 4305 and 4306, Section 6.3.1, boilers are required to be tested at least once every 12-months. Gaseous fuel fired units demonstrating compliance on two consecutive 12-month source tests may defer the following source test for up to 36 months. During 36-month source testing interval, the operator shall tune the boiler according to section 5.2.1 (tune up at least once each calendar year by qualified technician in accordance with Rule 4304). Tune-ups required by Sections 5.2.1 and 6.3.1 do not need to be performed for units that operate and maintain an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored.

N-238-41-1:

The existing permit to operate includes the requirements of this rule; therefore, continued compliance is expected.

N-238-42-0:

NO_x, CO and O₂ concentrations from the boiler will be measured using a portable analyzer monitor on a monthly basis. This monitoring scheme is previously approved under District Policy SSP-1105; therefore, boiler tune-ups are not required.

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

Since the emission limits of District Rule 4306 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4306 requirements will satisfy requirements of District Rule 4305.

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

Section 2.0 - Applicability

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.

The heat input rate to the boilers is greater than 5 MMBtu/hr. Therefore, these units are subject to the requirements of this rule.

Note that permit N-238-41-0 includes all applicable requirements from this rule. The proposed changes to N-238-41 will not affect this unit's ability to comply with this rule. Therefore, no further discussion is required. The following discussion is limited to the new supplemental boiler under permit N-238-42-0.

Section 5.0 - Requirements

Section 5.1.1 limits NO_x and CO emissions to 9 ppmvd @ 3% O₂ and 400 ppmvd @ 3% O₂ respectively.

The applicant has proposed to achieve 7.0 ppmvd NO_x @ 3% O₂ (or less) and 50 ppmvd CO @ 3% O₂ (or less) for the boiler. Since the proposed limits are below the rule limits, compliance is expected with this section.

Section 5.2 lists the requirements for boilers limited to a heat input rate of less than 9 billion Btu per calendar year. The boiler will not be limited to a heat input rate of less than 9 billion Btu per calendar year. Therefore, this section is not applicable.

Section 5.3 states that the NO_x and CO emission limits shall not apply to this unit during start-up and shutdown period provided that the duration of each start-up or each shutdown is not greater than 2.0 hours, and the emission control system is utilized during these periods. An operator may submit a request to allow more than two hours for each startup or each shutdown provided the operator meets all of the conditions specified in sections 5.3.3.1 to 5.3.3.3.

The proposed unit will be equipped with ultra-low NO_x burners. These burners generally achieve their rated emissions within one to two minutes of initial startup and do not require a special shutdown procedure. Because of the short duration before achieving the rated emissions following startup, the unit will be subject to the applicable emission limits of Sections 5.1 while in operation.

Section 5.4.1 requires the operator to install and maintain a non-resettable, totalizing mass or volumetric flow meter for the units, which simultaneously uses gaseous and liquid fuels and is subject to the requirements of Section 5.1. The applicant is proposing to use gaseous fuel only. Therefore, they are not required to install and maintain a fuel flow meter due to this section.

Section 5.4.2 requires that the units subject to District Rule 4306, Section 5.1 emissions limits, shall either install and maintain Continuous Emission Monitoring (CEM) equipment for NO_x, CO and O₂, or install and maintain APCO-approved alternate monitoring. In order to satisfy the requirements of District Rule 4306, the applicant has proposed to use pre-approved alternate monitoring scheme "A" of District Policy SSP-1105, which requires periodic monitoring of NO_x, CO and O₂ exhaust emissions concentrations. The following condition(s) will be included in the permit:

- The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall

not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320]

- If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]
- All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]
- The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]

Section 5.5.1 states the operator of any unit have the option of complying with either the applicable heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limit. The following condition(s) will be included in the permit:

- 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 5.5.2 requires 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. The following condition(s) will be included in the permit:

- 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 4306. [District Rules 4305, 4306 and 4320]

Section 5.5.3 requires that all CEMS data shall be averaged over a period of 15-consecutive minutes to demonstrate compliance with the applicable emission limits in this rule. The proposed boiler emissions will not be measured using CEMS system; therefore, this section is not applicable.

Section 5.5.4 requires emissions monitoring pursuant to Sections 5.4.2, 5.4.2.1, and 6.3.1 using a portable NO_x analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five readings evenly spaced out over the 15-consecutive-minute period. The following condition(s) will be included in the permit:

- All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]

Section 5.5.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. The following condition(s) will be included in the permit:

- 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 6.0 – Administrative Requirements

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.3 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule. The following condition(s) will be included in the permit:

- 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]

Section 6.2 identifies the test methods for determining higher heating value of fuel, NO_x, CO, O₂, stack gas velocities, and stack gas moisture content. The following conditions will be listed on each permit. The following condition(s) will be included in the permit:

- 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]
- NO_x emissions for source test purposes shall be determined using EPA Method 7E or CARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306 and 4320]
- CO emissions for source test purposes shall be determined using EPA Method 10 or CARB Method 100. [District Rules 4305, 4306 and 4320]
- Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or CARB Method 100. [District Rules 4305, 4306 and 4320]

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.1 and 5.2.3 not less than once every 12 months. Units that demonstrate compliance on two consecutive 12-month source tests may defer the following 12-month source test for up to 36 months (no more than 30 days before or after the required 36-month source test date). During the 36-month source testing interval, the operator shall tune the unit in accordance with the

provisions of Section 5.2.1, and shall monitor, on a monthly basis, the unit's operational characteristics recommended by the manufacturer to ensure compliance with the applicable emission limits specified in Sections 5.1 or 5.2.3. Tune-ups required by Sections 5.2.1 and 6.3.1 do not need to be performed for units that operate and maintain an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored.

NO_x, CO and O₂ concentrations will be measured on monthly basis using portable analyzer. Therefore, no periodic tune-ups are required. The following condition(s) will be included in the permit:

- Source testing to measure steady state NO_x and CO emissions shall be conducted within 60-days of the initial startup under this permit. [District Rules 2201, 4305, 4306 and 4320]
- Source testing to measure NO_x and CO emissions during steady state operation shall be conducted at least once every 12 months. After demonstrating compliance on 2 consecutive annual source tests, the unit shall be tested not less than once every 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 12 months. [District Rules 4305, 4306 and 4320]

Section 6.3.2 lists compliance testing procedure for units that represent a group of units. The heat input rate of the boilers at this site significantly varies from one boiler to another; therefore, group testing cannot be considered.

Section 6.4 discusses emission control plan (ECP). The permit application for the boiler satisfies the requirements of the Emission Control Plan, as listed in Section 6.4 of District Rule 4306. No further discussion is necessary.

Section 7.0 – Compliance Schedule

The boiler is expected to be operated in compliance with the requirements of this rule. Therefore, no further discussion is required.

Compliance is expected with this Rule.

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

Section 2.0 - Applicability

Section 2.0 states that 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.

The heat input rate to the boiler is greater than 5 MMBtu/hr. Therefore, this unit is subject to the requirements of this rule.

Section 5.0 – Requirements

Section 5.1 states that an operator of a unit(s) subject to this rule shall comply with all applicable requirements of the rule and one of the following, on a unit-by-unit basis:

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

Note that permit N-238-41-0 includes all applicable requirements from this rule. The proposed changes to N-238-41 will not affect this unit's ability to comply with this rule. Therefore, no further discussion is required. The following discussion is limited to the new supplemental boiler under permit N-238-42-0. The facility had chosen to comply with the emission limits specified in Section 5.2 and 5.4. These limits are summarized below:

NO_x: 7 ppmvd @ 3% O₂

CO: 400 ppmvd @ 3% O₂

Particulate Matter: Use PUC-quality natural gas, commercial propane, butane, or LPG, or combination of such gases with fuel sulfur content of 5 grains/100 scf or less.

The applicant has proposed the following limits:

NO_x: 7.0 ppmvd @ 3% O₂ (or less);

CO: 50 ppmvd @ 3% O₂ (or less);

Particulate Matter: Use PUC-quality natural gas.

Therefore, compliance is expected with this section.

Section 5.3 states that the NO_x and CO emission limits shall not apply to this unit during start-up and shutdown period provided that the duration of each start-up or each shutdown is not greater than 2.0 hours, and the emission control system is utilized during these periods.

The proposed unit will be equipped with ultra-low NO_x burners. These burners generally achieve their rated emissions within one to two minutes of initial startup and do not require a special shutdown procedure. Because of the short duration

before achieving the rated emissions following startup, the unit will be subject to the applicable emission limits of Sections 5.0 while in operation.

Section 5.7 discusses monitoring provisions to comply with NO_x and CO limits. These provisions are similar to the provisions in Rule 4306 (discussed previously).

Section 5.7.6 requires the operator to provide annual fuel sulfur content analysis. The following conditions will satisfy the requirements of this section:

- 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 Rule 4320]
- Fuel sulfur content shall be determined using EPA Method 11 or EPA Method 15 or District, CARB and EPA approved alternative methods. [District Rule 4320]

Section 5.8 discusses compliance determination. The requirements in this section are similar to the requirements in Rule 4306 (discussed previously).

Section 6.0 – Administrative Requirements

Recordkeeping requirements of this Rule are similar to that of the Rule 4306. Please refer to section 6.0 of Rule 4306.

Section 7.0 – Compliance Schedule

This section refers to “Authority to Construct” and “Compliance Deadline” dates for existing units. The proposed supplemental boiler is a new emission unit. Therefore, no further discussion is required.

Compliance is expected with this Rule.

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

Since the emission limits of District Rule 4306 and 4320 and all other requirements are equivalent or more stringent than this Rule, compliance with District Rule 4306 and 4320 requirements will satisfy requirements of District Rule 4351.

Rule 4801 Sulfur Compounds

Section 3.1 states that a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding a concentration of two-tenths (0.2) percent by volume calculated as

sulfur dioxide (SO₂) at the point of discharge on a dry basis averaged over 15 consecutive minutes.

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

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

SO_x emissions from each boiler are based on 1.0 gr-S/100 scf, equivalent to 0.0029 lb/MMBtu. Since these emissions are less than 2.9 lb/MMBtu, it is expected that these units will operate in compliance with this Rule.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (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.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that 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.

The total heat input rate to both boilers N-238-41 and '-42 will be limited to the existing heat input rate of boiler N-238-41. Consequently, there would not be any increase in annual GHG emissions.

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)).

IX. RECOMMENDATION

The following recommendations are made:

- Remove obsolete PSD conditions from permit N-238-41.

The boiler under permit N-238-41 was once operated under permit N-802-9 as a back-up to the coal-fired circulating fluidized bed (CFB) boiler under permit N-802-1. The CFB boiler was shutdown in 2012, its PTO was surrendered, and ERCs were banked under project N-1122754. Permit N-238-41 contains several PSD conditions that are linked to operations of boiler under N-802-1. Since the boiler N-802-1 is no longer in operation, these conditions become obsolete, and will be deleted from permit N-238-41. Please refer to Appendix VII for the conditions that are being removed from the permit.

- Issue the ATC upon addressing comments from the EPA, CARB, the public and the applicant.

X. BILLING INFORMATION

Permit #	Fee Schedule	Fee Description	Previous Fee Schedule
N-238-41-1	3020-02 H	185 MMBtu/hr	3020-02 H
N-238-42-0	3020-02 H	28.8 MMBtu/hr	None

APPENDICES

- Appendix I: Draft Authority to Construct Permits
- Appendix II: Top-Down BACT Analysis
- Appendix III: RMR and AAQA Summary
- Appendix IV: HAP Emission Calculations
- Appendix V: Compliance Certification
- Appendix VI: Permit to Operate N-238-41-0
- Appendix VII: Obsolete PSD Conditions

Appendix I
Draft Authority to Construct Permits

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-238-41-1

LEGAL OWNER OR OPERATOR: INGREDION INCORPORATED
MAILING ADDRESS: P O BOX 6129
STOCKTON, CA 95206

LOCATION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:

MODIFICATION OF 178 MMBTU/HR ZURN MODEL 22M KEYSTONE AUXILIARY BOILER WITH A TODD MODEL RMB ULTRA LOW NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: TO CORRECT HOURLY HEAT INPUT RATE AND ESTABLISH COMBINED DAILY AND ANNUAL HEAT INPUT LIMITS FOR PERMIT UNITS N-238-41 AND -42 EQUAL TO POTENTIAL TO EMIT FOR PERMIT UNIT N-238-41

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. {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
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, or 0.1 grain/dscf calculated to 12% CO2 or 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
6. A fuel flow meter dedicated to this boiler shall be utilized to monitor the quantity of natural gas fuel burned by the boiler on an hourly basis whenever the boiler is operating. Monitoring shall not be required if the unit is not in operation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

N-238-41-1 Apr 28 2014 5:06PM -- KAU:DNJ Joint Inspection NOT Required

7. This boiler shall be fired exclusively on PUC-regulated natural gas fuel. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
8. The heat input rate to this unit shall not exceed 178 MMBtu during any one-hour period. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The total heat input rate to boilers under permit units N-238-41 and '-42 shall not exceed any of the following limits: 4,272 MMBtu/day and 1,559,280 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The total VOC emissions from permit units N-238-41 and '-42 shall not exceed any of the following limits: 4.3 lb/day and 1,559 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. NOx emissions shall not exceed 7.0 ppmvd @ 3% O₂ (0.008 lb/MMBtu) referenced as NO₂. [District Rules 2201, 4301, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
12. CO emissions shall not exceed 50 ppmvd @ 3% O₂ (0.037 lb/MMBtu). [District Rule 2201] Federally Enforceable Through Title V Permit
13. VOC emissions shall not exceed 3 ppmvd @ 3% O₂ (0.001 lb/MMBtu) referenced as methane. [District Rule 2201] Federally Enforceable Through Title V Permit
14. PM₁₀ emissions shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. SOx emissions shall not exceed 0.0029 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
17. All emission 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, 4320 and 4351] Federally Enforceable Through Title V Permit
18. Operator shall ensure that all required source testing conforms with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing to measure NOx and CO emissions during steady state operation shall be conducted at least once every 12 months. After demonstrating compliance on 2 consecutive annual source tests, the unit shall be tested not less than once every 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 12 months. [District Rules 4305, 4306, 4320 and 4351] Federally Enforceable Through Title V Permit
20. During the 36-month source testing interval, the owner or operator shall have this unit tuned at least twice each calendar year, from four to eight months apart, in which it operates, by a technician that is qualified, to the satisfaction of the APCO, in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters). [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
21. If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year. This unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
22. 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
23. 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
24. 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

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25. 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
26. 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
27. 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
28. The permittee shall either: a.) perform fuel analysis to determine the following parameters: methane content (%), heating value (Btu/dscf), and sulfur content (gr-S/100 dscf); or b.) obtain and maintain a copy of valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts that contains methane content (%), heating value (Btu/dscf), and sulfur content (gr-S/100 dscf) to verify compliance with the SOx emission limits in this permit. If the permittee decide to conduct fuel analysis, the fuel sample shall be collected within 60 days of startup under this permit and weekly thereafter. Upon successful compliance demonstration on eight consecutive weeks testing, the monitoring frequency shall be every quarter. If the result of any quarterly monitoring fails to demonstrate compliance with SOx emissions, weekly monitoring shall resume until compliance is demonstrated for eight consecutive weeks. [District Rules 2201 and 4320, 40 CFR 60.45b] Federally Enforceable Through Title V Permit
29. The flue gas recirculation rate shall be determined at least on an hourly basis by measuring the stack O2% by volume (Os), and windbox O2% by volume (Ow) using the following equation: $FGR \text{ rate} = \{Ow - 20.9\} / \{Os - 20.9\} \times 100\%$. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4305, 4306 and 4320 and 40 CFR 64] Federally Enforceable Through Title V Permit
30. The minimum flue gas recirculation rate shall be established by source testing this unit or other representative units per Rule 4305 and as approved by the District. The normal range/level shall be no lower than the minimum flue gas recirculation rate with which compliance with applicable NOx and CO emission limits has been demonstrated through source testing at a similar firing rate. [District Rules 4305, 4306 and 4320 and 40 CFR 64] Federally Enforceable Through Title V Permit
31. If the flue gas recirculation rate is less than the normal range/level, the permittee shall return the flue gas recirculation rate to the normal range/level as soon as possible, but no longer than 1 hour of operation after detection. If the flue gas recirculation rate is not returned to the normal range/level within 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance, to demonstrate compliance with the applicable emission limits at the new flue gas recirculation rate. A District-approved portable analyzer may be used in lieu of a source test to demonstrate compliance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320 and 40 CFR 64] Federally Enforceable Through Title V Permit
32. The permittee shall maintain records of the date and time of oxygen concentration measurements, the measured oxygen concentrations, the calculated flue gas recirculation rate, and the firing rate at the time of the oxygen concentration measurements. The records shall also include a description of any corrective action taken to maintain the flue gas recirculation rate within the acceptable range. [District Rules 4305, 4306 and 4320 and 40 CFR 64] Federally Enforceable Through Title V Permit
33. The FGR rate shall be maintained at a level equal to or greater than 0.1% FGR. [District Rule 2520, 9.3.2 and 40 CFR 64] Federally Enforceable Through Title V Permit
34. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR 64] Federally Enforceable Through Title V Permit
35. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR 64] Federally Enforceable Through Title V Permit

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36. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR 64] Federally Enforceable Through Title V Permit
37. The owner or operator shall keep records of hourly heat input rate (MMBtu) to this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
38. The owner or operator shall keep records of the date, total heat input (MMBtu) and total VOC emissions (pounds) for both boilers under permits N-238-41 and '-42. [District Rule 2201] Federally Enforceable Through Title V Permit
39. The owner or operator shall keep records of the total heat input (MMBtu) and total VOC emissions (pounds) for both boilers under permits N-238-41 and '-42 on a 12-month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The owner or operator shall keep daily records of the natural gas usage for this unit. [District Rules 4305, 6.0; 4306, 6.0; and 2520, 9.4.2] Federally Enforceable Through Title V Permit
41. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070; 2520, 9.4.2; 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
42. This boiler shall be in compliance with Title 40, Code of Federal Regulations, Part 60, Subparts A and Db. The owner or operator shall comply with the terms of the plan submitted under the provisions of section 60.48b(g)(2); specifically: i.) The owner or operator shall demonstrate compliance with the applicable standard for nitrogen oxides by hourly monitoring the flue gas recirculation rate as established by this unit's source test, and ii.) The owner or operator shall maintain records of the auxiliary boiler's fuel usage for at least five years and make these records available to EPA upon request. [40 CFR Part 60, Subpart Db] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-238-42-0

LEGAL OWNER OR OPERATOR: INGREDION INCORPORATED
MAILING ADDRESS: P O BOX 6129
STOCKTON, CA 95206

LOCATION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:

28.8 MMBTU/HR HURST MODEL S2X-G-650-250 (OR EQUIVALENT MANUFACTURER AND MODEL) BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 (OR EQUIVALENT MANUFACTURER OR MODEL) BURNER SYSTEM

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. {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
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
7. The total heat input rate to boilers under permit units N-238-41 and -42 shall not exceed any of the following limits: 4,272 MMBtu/day and 1,559,280 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

N-238-42-0 - Apr 28 2014 5:05PM - KAIT,CKJ - Joint Inspection/NOI Required

8. The total VOC emissions from permit units N-238-41 and -42 shall not exceed any of the following limits: 4.3 lb/day and 1,559 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. NOx emissions shall not exceed 7.0 ppmvd @ 3% O2 (0.008 lb/MMBtu) referenced as NO2. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
10. CO emissions shall not exceed 50 ppmvd @ 3% O2 (0.037 lb/MMBtu). [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. SOx emissions shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. PM10 emissions shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. VOC emissions shall not exceed 10 ppmvd @ 3% O2 (0.004 lb/MMBtu) referenced as methane. [District Rule 2201] Federally Enforceable Through Title V Permit
14. 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
15. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
16. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. 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
18. 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
19. 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
20. Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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
24. 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

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25. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. 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
30. The permittee shall maintain daily records of the type and quantity of fuel combusted by the boiler. [District Rule 2201 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
31. The owner or operator shall keep records of the date, total heat input (MMBtu) and total VOC emissions (pounds) for both boilers under permits N-238-41 and '-42. [District Rule 2201] Federally Enforceable Through Title V Permit
32. The owner or operator shall keep records of the total heat input (MMBtu) and total VOC emissions (pounds) for both boilers under permits N-238-41 and '-42 on a 12-month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit
33. 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, 40 CFR 60.49b(o)] Federally Enforceable Through Title V Permit
34. The permittee shall obtain APCO approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of an equivalent equipment shall only be made after the APCO's determination that the submitted design and performance data for the proposed alternate equipment are equivalent to the approved equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
35. The permittee's request for approval of an equivalent equipment shall include, at minimum, the following information: burner manufacturer and model number, maximum heat input rating, and manufacturer's guaranteed NO_x and CO emission concentrations. [District Rule 2201] Federally Enforceable Through Title V Permit

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36. The permittee's request for approval of an equivalent equipment shall be submitted to the District at least 30 days prior to the planned installation date. The permittee shall also notify the District at least 15 days prior to the actual installation of the District approved equivalent equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

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Appendix II
Top-Down BACT Analysis

Top-Down BACT Analysis for NOx Emissions

Step 1: Identify All Possible Control Technologies

The District considers the following NOx emissions limits to conduct a BACT analysis for new projects:

Achieved-in-Practice:

7.0 ppmvd @ 3% O₂ (0.008 lb/MMBtu)

Technologically Feasible:

5.0 ppmvd @ 3% O₂ (0.006 lb/MMBtu)

Alternate Basic Equipment:

None

Step 2: Eliminate Technologically Infeasible Options

All control options listed in step 1 are technologically feasible.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

1. 5.0 ppmvd @ 3% O₂ (0.006 lb/MMBtu) - Technologically Feasible
2. 7.0 ppmvd @ 3% O₂ (0.008 lb/MMBtu) - Achieved-in-Practice

Step 4: Cost Effectiveness Analysis

Option 1: 5.0 ppmvd @ 3% O₂ (0.006 lb/MMBtu)

Per Yorke Engineering, LLC, capital cost to install an SCR system for a 28.8 MMBtu/hr natural gas-fired unit would be \$280,000. The annualized cost would be:

$$A = (\$280,000) \left[\frac{(0.1)(1 + 0.1)^{10}}{(1 + 0.1)^{10} - 1} \right] = \frac{\$45,569}{\text{yr}}$$

In determining the cost of reduction, typically the District uses the emission reduction that can be achieved from the current "industry standard". Rule 4320 limit of 7 ppmvd @ 19% O₂ (0.008 lb/MMBtu) is assumed to be the "industry standard". Therefore, the reduction from the "industry standard" would be 505 lb-NOx/yr [(0.008-0.006 lb/MMBtu)(28.8 MMBtu/hr)(8,760 hr/yr)].

Cost of Reduction (\$/ton):

$$= \frac{\left(\frac{\$45,569}{\text{year}} \right) \left(2,000 \frac{\text{lb}}{\text{ton}} \right)}{\left(505 \frac{\text{lb-NOx}}{\text{year}} \right)} = \frac{\$180,471}{\text{ton}}$$

The cost of reduction of NO_x emissions is greater than the threshold limit of \$24,500/ton; therefore, it is not cost effective to achieve this limit, and is not required at this time.

Option 2: 7.0 ppmvd @ 3% O₂ (0.008 lb/MMBtu)

This option is an achieved-in-practice option. Therefore, cost-effectiveness analysis is not performed.

Step 5: Select BACT

BACT requirement is to achieve 7.0 ppmvd NO_x @ 3% O₂ (or less) concentrations.

Top-Down BACT Analysis for PM₁₀, CO, and VOC Emissions

Step 1: Identify All Possible Control Technologies

The following techniques are considered to reduce PM₁₀ emissions.

Achieved-in-Practice:

Use natural gas, or LPG fuel

Technologically Feasible:

None

Alternate Basic Equipment:

None

Step 2: Eliminate Technologically Infeasible Options

All control options listed in step 1 are technologically feasible.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

1. use of natural gas or LPG fuel

Step 4: Cost Effectiveness Analysis

There is no technologically feasible option in Step 3. Therefore, cost-effectiveness analysis is not required.

Step 5: Select BACT

BACT requirement is to use natural gas or LPG fuels to reduce PM₁₀, CO and VOC emissions.

Appendix III
RMR and AAQA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Jagmeet Kahlon – Permit Services
 From: Ester Davila – Technical Services
 Date: April 23, 2014
 Facility Name: Ingredion, LLC
 Location: 1021 Industrial Drive, Stockton
 Application #(s): N-238-41-1 & 42-0
 Project #: N-1141447

A. RMR SUMMARY

RMR Summary			
Categories	Two Boilers (Unit 41-1 & 42-0)	Project Totals	Facility Totals
Prioritization Score	0.25*	0.25	>1
Acute Hazard Index	0.00	0.00	0.12
Chronic Hazard Index	0.00	0.00	0.05
Maximum Individual Cancer Risk	3.97E-8	3.97E-8	3.97E-8
T-BACT Required?	No		
Special Permit Conditions?	No		

*The prioritization score was less than one, however the total facility score is greater than one.

I. Project Description

Technical Services received a request on April 17, 2014, to perform a Risk Management Review for the proposed modification to an existing natural gas fired boiler to correct the heat input in the equipment description from 178 MMBtu/hr to 185 MMBtu/hr (will be limited to 178 MMBtu/hr) and the installation of a new 28.8 MMBtu/hr natural gas fired boiler.

II. Analysis

Toxic emissions from the project were calculated using the Ventura County emissions factors for the external combustion of natural gas and the boiler rating. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the proposed project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the proposed project was less than 1.0 (see RMR Summary Table). However the facility total prioritization was greater than one, consequently a refined Health Risk Assessment was required and performed for the project. AERMOD was used with point source parameters outlined below and concatenated 5-year meteorological data from Stockton to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model 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			
Source Type	Point	Closest Receptor (m)	137
Stack Height (m)	4.3	Type of Receptor	Business
Stack Diameter (m)	0.61	Location Type	Rural
Stack Gas Temperature (K)	505	Stack Gas Velocity (m/sec)	21.5*

*The AERMOD model was run using the BETA Options for 'Capped and Horizontal Stack Releases'

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were 1.067 lb/hr CO, 0.229 lb/hr NO_x, 0.083 lb/hr SO_x, and 0.221 lb/hr PM₁₀ and PM_{2.5}.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

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

*Results were taken from the attached PSD spreadsheet

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

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

III. Conclusion

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

The acute and chronic indices were below 1.0; and the Cancer Risk was less than one in a million. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

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 from the project engineer
- B. Additional information from the applicant/project engineer
- C. Toxic emissions summary
- D. Prioritization score
- E. HARP Report
- F. Facility Summary
- G. AAQA Summary

Appendix IV
HAP Emission Calculations

Summary of HAP Emissions

² Permit #	Description	HAPs (lb/yr)
N-238-10-7	21 MMBtu/hr natural gas-fired starch flash dryer	11
N-238-18-6	43.403 MMBtu/hr natural gas-fired gas turbine	495
N-238-41-1	185 Mmbtu/hr natural gas-fired boiler	38
¹ N-238-42-0	28.8 MMBtu/hr natural gas-fired boiler	16
Total (lb/yr):		544
Total (tons/yr):		0.27
Note:		
<p>1. HAP emissions from N-238-42-0 are added to get a conservative estimate of HAP emissions since HAP emission factor are different for 10-100 MMBtu/hr and >100 MMBtu/hr natural gas-fired units</p> <p>2. Wet corn milling processes generally emits SOx, VOC or PM emissions. Several websites and CATEF database (http://www.arb.ca.gov/app/emsinv/catef_form.html data) were searched to determine any HAPs associated with wet corn milling process; no data was found during this search.</p>		

Potential HAP Emissions from "N-238-10-7"

HAP	Emission Factor (lb/MMBtu) ⁽¹⁾	Maximum Hourly Emissions (lb/hr) ⁽²⁾	Maximum Annual Emissions (lb/yr) ⁽³⁾	Maximum Annual Emissions (tpy)
Acetaldehyde	3.10E-06	6.51E-05	1	0.0
Acrolein	2.70E-06	5.67E-05	0	0.0
Benzene	5.80E-06	1.22E-04	1	0.0
1,3-Butadiene	n/a	--	--	--
Ethyl benzene	6.90E-06	1.45E-04	1	0.0
Formaldehyde	1.23E-05	2.58E-04	2	0.0
Hexane	4.60E-06	9.66E-05	1	0.0
Naphthalene	3.00E-07	6.30E-06	0	0.0
PAHs	1.00E-07	2.10E-06	0	0.0
Propylene Oxide	n/a	--	--	--
Toluene	2.65E-05	5.57E-04	5	0.0
Xylene	6.40E-08	1.34E-06	0	0.0
Total			11	0.0

Notes:

1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment 10-100 MMBtu/hr, available at <http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf>
2. Hourly emissions = EF (lb/MMBtu) x 21 (MMBtu/hr)
3. Annual emissions = EF (lb/MMBtu) x 21 (MMBtu/hr) x 8,760 (hr/yr)

Potential HAP Emissions from "N-238-18-6"

HAP	Emission Factor (lb/MMBtu) ⁽¹⁾	Maximum Hourly Emissions (lb/hr) ⁽²⁾	Maximum Annual Emissions (lb/yr) ⁽³⁾	Maximum Annual Emissions (tpy)
Acetaldehyde	4.00E-05	1.74E-03	15	0.0
Acrolein	6.40E-06	2.78E-04	2	0.0
Benzene	1.20E-05	5.21E-04	5	0.0
1,3-Butadiene	4.30E-07	1.87E-05	0	0.0
Ethyl benzene	3.20E-05	1.39E-03	12	0.0
Formaldehyde	7.10E-04	3.08E-02	270	0.1
Hexane	2.58E-04	1.12E-02	98	0.0
Naphthalene	1.30E-06	5.64E-05	0	0.0
PAHs excluding naphthalene	3.14E-07	1.36E-05	0	0.0
Propylene Oxide	4.76E-05	2.07E-03	18	0.0
Toluene	1.30E-04	5.64E-03	49	0.0
Xylene	6.40E-05	2.78E-03	24	0.0
Total			495	0.1

Notes:

1. These emission factors are obtained from AP-42 and CATEF databases
2. Hourly emissions = EF (lb/MMBtu) x 43.403 (MMBtu/hr)
3. Annual emissions = EF (lb/MMBtu) x 43.403 (MMBtu/hr) x 8,760 (hr/yr)

Potential HAP Emissions from "N-238-41-1"

HAP	Emission Factor (lb/MMBtu) ⁽¹⁾	Maximum Hourly Emissions (lb/hr) ⁽²⁾	Maximum Annual Emissions (lb/yr) ⁽³⁾	Maximum Annual Emissions (tpy)
Acetaldehyde	9.00E-07	1.60E-04	1	0.0
Acrolein	8.00E-07	1.42E-04	1	0.0
Benzene	1.70E-06	3.03E-04	3	0.0
1,3-Butadiene	n/a	--	--	--
Ethyl benzene	2.00E-06	3.56E-04	3	0.0
Formaldehyde	3.60E-06	6.41E-04	6	0.0
Hexane	1.30E-06	2.31E-04	2	0.0
Naphthalene	3.00E-07	5.34E-05	0	0.0
PAHs excluding naphthalene	1.00E-07	1.78E-05	0	0.0
Propylene Oxide	n/a	--	--	--
Toluene	7.80E-06	1.39E-03	12	0.0
Xylene	5.80E-06	1.03E-03	9	0.0
Total			38	0.0

Notes:

1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment greater than 100 MMBtu/hr, available at <http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf>
2. Hourly emissions = EF (lb/MMBtu) x 178 (MMBtu/hr)
3. Annual emissions = EF (lb/MMBtu) x 178 (MMBtu/yr) x 8,760 (hr/yr)

Potential HAP Emissions from "N-238-42-0"

HAP	Emission Factor (lb/MMBtu) ⁽¹⁾	Maximum Hourly Emissions (lb/hr) ⁽²⁾	Maximum Annual Emissions (lb/yr) ⁽³⁾	Maximum Annual Emissions (tpy)
Acetaldehyde	3.10E-06	8.93E-05	1	0.0
Acrolein	2.70E-06	7.78E-05	1	0.0
Benzene	5.80E-06	1.67E-04	1	0.0
1,3-Butadiene	n/a	--	--	--
Ethyl benzene	6.90E-06	1.99E-04	2	0.0
Formaldehyde	1.23E-05	3.54E-04	3	0.0
Hexane	4.60E-06	1.32E-04	1	0.0
Naphthalene	3.00E-07	8.64E-06	0	0.0
PAHs	1.00E-07	2.88E-06	0	0.0
Propylene Oxide	n/a	--	--	--
Toluene	2.65E-05	7.63E-04	7	0.0
Xylene	6.40E-08	1.84E-06	0	0.0
Total			16	0.0

Notes:

1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment 10-100 MMBtu/hr, available at <http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf>
2. Hourly emissions = EF (lb/MMBtu) x 28.8 (MMBtu/hr)
3. Annual emissions = EF (lb/MMBtu) x 28.8 (MMBtu/hr) x 8,760 (hr/yr)

Appendix V
Compliance Certification



Ingredion[™]

April 11, 2014

Mr. Rupi Gill
San Joaquin Valley Air Pollution Control District
4800 Enterprise Way
Modesto CA 95356-8718

Subject: Compliance Statement for Ingredion Incorporated

Dear Mr. Gill:

In accordance with Rule 2201, Section 4.15, "Additional Requirements for New Major Sources and Federal Major Modifications," Ingredion Incorporated is pleased to provide this compliance statement regarding its proposed boilers for project N-1141447.

All major stationary sources in California owned or operated by Ingredion Incorporated, or by any entity controlling, controlled by, or under common control with Ingredion Incorporated, and which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards. These sources include one or more of the following facilities:

Facility #1: Ingredion Incorporated, 1021 Industrial Drive, Stockton, CA (N-238)

Facility #2: Ingredion Incorporated, 1010 Zephyr Street, Stockton, CA (N-802)*

*Please note that N-238 and N-802 are on one contiguous property. The one unit (Auxiliary Boiler) under N-802 is being transferred to N-238.

Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Please contact myself or Roger Hoffdahl @ 209-547-8233 should you have any questions regarding this certification.

Sincerely,

Juan Carlos Casillas
Stockton Plant Manager
Ingredion Incorporated
209-547-8226

**San Joaquin Valley
Unified Air Pollution Control District**

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

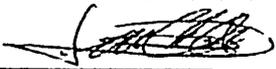
- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

COMPANY NAME: <u>Ingredion Incorporated</u>	FACILITY ID: <u>N-238</u>
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required 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:



Signature of Responsible Official

April 11, 2014

Date

Juan Carlos Casillas

Name of Responsible Official (please print)

Stockton Plant Manager

Title of Responsible Official (please print)

Appendix VI
Permit to Operate N-238-41-0

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-238-41-0

EXPIRATION DATE: 03/31/2014

EQUIPMENT DESCRIPTION:

178 MMBTU/HR ZURN MODEL 22M KEYSTONE AUXILIARY BOILER WITH A TODD MODEL RMB ULTRA LOW NOX BURNER AND A FLUE GAS RECIRCULATION (FGR) SYSTEM

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, or 0.1 grain/dscf calculated to 12% CO₂ or 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
3. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD] Federally Enforceable Through Title V Permit
4. A fuel flow meter dedicated to this boiler shall be utilized to monitor the quantity of natural gas fuel burned by the boiler on an hourly basis whenever the boiler is operating. Monitoring shall not be required if the unit is not in operation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. This boiler shall be fired exclusively on PUC-regulated natural gas fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
6. NO_x emissions shall not exceed 7.0 ppmvd @ 3% O₂ referenced as NO₂. [District Rules 2201, 4301, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. CO emissions shall not exceed 50 ppmvd @ 3% O₂. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC emissions shall not exceed 3 ppmvd @ 3% O₂ referenced as methane. [District Rule 2201] Federally Enforceable Through Title V Permit
9. PM₁₀ emissions shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. SO_x emissions shall not exceed 0.0029 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
11. All emission measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Compliance determinations shall be conducted with the unit operating at conditions representative of normal operations. [District Rules 4305, 4306, 4320 and 4351] Federally Enforceable Through Title V Permit
12. The combined NO_x emissions from this boiler and the fluidized bed boiler (N-802-1) shall not exceed 42 lb/hr (3-hour rolling average). [PSD] Federally Enforceable Through Title V Permit
13. The combined NO_x emissions from this boiler and the fluidized bed boiler (N-802-1) in any 90-day period shall not exceed 64,980 lb (running 90-day total). [PSD] Federally Enforceable Through Title V Permit
14. The cumulative NO_x emissions shall not exceed 219,730 pounds during any one year from both the fluidized bed boiler (N-802-1) and this boiler. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

15. Operator shall ensure that all required source testing conforms with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Source testing for NOx and CO emissions shall be conducted as required by Rule 4306 - "Boilers, Steam Generators, and Process Heaters - Phase 3". [District Rules 4306 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. Source tests shall be performed not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to 36 months. If a test shows noncompliance, the source shall return to annual source testing until compliance is again shown for two consecutive years. [District Rules 4305, 4306, 4320 and 4351] Federally Enforceable Through Title V Permit
18. During the 36-month source testing interval, the owner or operator shall have this unit tuned at least twice each calendar year, from four to eight months apart, in which it operates, by a technician that is qualified, to the satisfaction of the APCO, in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters). [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
19. If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year. This unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. [District Rules 4306 and 4320] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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
24. Source testing to measure concentrations of oxides of nitrogen (as NO₂) shall be conducted using EPA method 7E or CARB method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. Source testing to measure concentrations of carbon monoxide (as CO) shall be conducted using EPA method 10 or CARB method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure the stack gas oxygen shall be conducted using EPA methods 3 or 3A, or CARB method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall either: a.) perform fuel analysis to determine the following parameters: methane content (%), heating value (Btu/dscf), and sulfur content (gr-S/100 dscf); or b.) obtain and maintain a copy of valid purchase contracts, supplier certifications, tariff sheets, or transportation contacts that contains methane content (%), heating value (Btu/dscf), and sulfur content (gr-S/100 dscf) to verify compliance with the SO_x emission limits in this permit. If the permittee decide to conduct fuel analysis, the fuel sample shall be collected within 60 days of startup under this permit and weekly thereafter. Upon successful compliance demonstration on eight consecutive weeks testing, the monitoring frequency shall be every quarter. If the result of any quarterly monitoring fails to demonstrate compliance with SO_x emissions, weekly monitoring shall resume until compliance is demonstrated for eight consecutive weeks. [District Rules 2201 and 4320, 40 CFR 60.45b] Federally Enforceable Through Title V Permit
28. The flue gas recirculation rate shall be determined at least on an hourly basis by measuring the stack O₂% by volume (O_s), and windbox O₂% by volume (O_w) using the following equation: $FGR \text{ rate} = \{O_w - 20.9\} / \{O_s - 20.9\} \times 100\%$. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4305, 4306 and 4320 and 40 CFR 64] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

29. The minimum flue gas recirculation rate shall be established by source testing this unit or other representative units per Rule 4305 and as approved by the District. The normal range/level shall be no lower than the minimum flue gas recirculation rate with which compliance with applicable NOx and CO emission limits has been demonstrated through source testing at a similar firing rate. [District Rules 4305, 4306 and 4320 and 40 CFR 64] Federally Enforceable Through Title V Permit
30. If the flue gas recirculation rate is less than the normal range/level, the permittee shall return the flue gas recirculation rate to the normal range/level as soon as possible, but no longer than 1 hour of operation after detection. If the flue gas recirculation rate is not returned to the normal range/level within 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance, to demonstrate compliance with the applicable emission limits at the new flue gas recirculation rate. A District-approved portable analyzer may be used in lieu of a source test to demonstrate compliance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320 and 40 CFR 64] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of the date and time of oxygen concentration measurements, the measured oxygen concentrations, the calculated flue gas recirculation rate, and the firing rate at the time of the oxygen concentration measurements. The records shall also include a description of any corrective action taken to maintain the flue gas recirculation rate within the acceptable range. [District Rules 4305, 4306 and 4320 and 40 CFR 64] Federally Enforceable Through Title V Permit
32. The FGR rate shall be maintained at a level equal to or greater than 0.1% FGR. [District Rule 2520, 9.3.2 and 40 CFR 64] Federally Enforceable Through Title V Permit
33. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR 64] Federally Enforceable Through Title V Permit
34. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR 64] Federally Enforceable Through Title V Permit
35. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR 64] Federally Enforceable Through Title V Permit
36. The auxiliary boiler (N-802-9) can be operated simultaneously with the CFB boiler (N-802-1) for up to 250 hours per year including periods of CFB boiler startup, shutdown, and emissions testing of the auxiliary boiler required by the EPA, CARB or the District. The permittee shall keep sufficient records to demonstrate compliance with the requirements of this condition. [District Rule 2201] Federally Enforceable Through Title V Permit
37. The auxiliary boiler may operate any time that the CFB boiler is not operating. [District Rule 2201] Federally Enforceable Through Title V Permit
38. When in simultaneous operation with the CFB boiler (N-802-1), the auxiliary boiler's firing rate shall not exceed 36.6 MMBtu/hr except during: 1.) periods of CFB boiler startup or shutdown, or 2.) a period of less than 10 hours duration to conduct any emissions testing for the auxiliary boiler required by the EPA, the California Air Resources Board, or the District. For the purposes of this condition, CFB boiler startup and shutdown periods shall be defined as follows: A.) Following CFB boiler repairs that require curing of the refractory material, the startup period shall begin upon initiation of continuous fuel flow to the CFB boiler and shall end after 40 hours or when the generator output reaches 45 MW, whichever comes first. B.) For all startups other than those described in item A above, the startup period shall begin upon initiation of continuous fuel flow to the boiler and shall not last more than 16 hours. [PSD] Federally Enforceable Through Title V Permit
39. The owner or operator shall record and maintain records of the hours of operation and the amounts and types of fuel fired for each occurrence. [PSD] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

40. Hourly NOx emissions shall be calculated as the product of the hourly heat input and the maximum allowable NOx emissions rate. [PSD] Federally Enforceable Through Title V Permit
41. The owner/operator shall maintain a file of all measurements, including continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. [PSD] Federally Enforceable Through Title V Permit
42. A record of the daily NOx emissions shall be maintained on the premises at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
43. A record of the cumulative NOx emissions for the calendar year from both the fluidized bed boiler (N-802-1) and this boiler shall be updated daily and kept on the premises at all times. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
44. Daily records of the natural gas usage shall be kept. [District Rules 4305, 6.0; 4306, 6.0; and 2520, 9.4.2] Federally Enforceable Through Title V Permit
45. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070; 2520, 9.4.2; 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
46. This boiler shall be in compliance with Title 40, Code of Federal Regulations, Part 60, Subparts A and Db. The owner or operator shall comply with the terms of the plan submitted under the provisions of ¹ 60.48b(g)(2); specifically: i.) The owner or operator shall demonstrate compliance with the applicable standard for nitrogen oxides by hourly monitoring the flue gas recirculation rate as established by this unit's source test, and ii.) The owner or operator shall maintain records of the auxiliary boiler's fuel usage for at least five years and make these records available to EPA upon request. [40 CFR Part 60, Subpart Db and PSD] Federally Enforceable Through Title V Permit
47. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD] Federally Enforceable Through Title V Permit
48. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD] Federally Enforceable Through Title V Permit
49. The owner and operator shall operate the stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD] Federally Enforceable Through Title V Permit
50. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244. [PSD] Federally Enforceable Through Title V Permit

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

Appendix VII
Obsolete PSD Conditions

Obsolete PSD Permit Requirements

The following conditions are recommended to be removed from permit N-238-41-0:

12. The combined NO_x emissions from this boiler and the fluidized bed boiler (N-802-1) shall not exceed 42 lb/hr (3-hour rolling average). [PSD] Y

13. The combined NO_x emissions from this boiler and the fluidized bed boiler (N-802-1) in any 90-day period shall not exceed 64,980 lb (running 90-day total). [PSD] Y

14. The cumulative NO_x emissions shall not exceed 219,730 pounds during any one year from both the fluidized bed boiler (N-802-1) and this boiler. [District NSR Rule] Y

36. The auxiliary boiler (N-802-9) can be operated simultaneously with the CFB boiler (N-802-1) for up to 250 hours per year including periods of CFB boiler startup, shutdown, and emissions testing of the auxiliary boiler required by the EPA, CARB or the District. The permittee shall keep sufficient records to demonstrate compliance with the requirements of this condition. [District Rule 2201] Y

37. The auxiliary boiler may operate any time that the CFB boiler is not operating. [District Rule 2201] Y

38. When in simultaneous operation with the CFB boiler (N-802-1), the auxiliary boiler's firing rate shall not exceed 36.6 MMBtu/hr except during: 1.) periods of CFB boiler startup or shutdown, or 2.) a period of less than 10 hours duration to conduct any emissions testing for the auxiliary boiler required by the EPA, the California Air Resources Board, or the District. For the purposes of this condition, CFB boiler startup and shutdown periods shall be defined as follows: A.) Following CFB boiler repairs that require curing of the refractory material, the startup period shall begin upon initiation of continuous fuel flow to the CFB boiler and shall end after 40 hours or when the generator output reaches 45 MW, whichever comes first. B.) For all startups other than those described in item A above, the startup period shall begin upon initiation of continuous fuel flow to the boiler and shall not last more than 16 hours. [PSD] Y

39. The owner or operator shall record and maintain records of the hours of operation and the amounts and types of fuel fired for each occurrence. [PSD] Y

40. Hourly NO_x emissions shall be calculated as the product of the hourly heat input and the maximum allowable NO_x emissions rate. [PSD] Y

47. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD] Y

48. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD] Y

49. The owner and operator shall operate the stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD] Y

50. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244. [PSD] Y