San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

February 11, 2026

David Brau
Ingredion Incorporated
1021 Industrial Drive
Stockton, CA 95206

RE: Notice of Final Action – Emission Reduction Credits
Facility Number: N-238
Project Number: N-1191798

Dear Mr. Brau:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Ingredion Incorporated for emission reduction generated by the shutdown of a corn processing plant, at 1021 Industrial Drive in Stokcton. The quantity of ERCs issued is 8,413 lb-NOx/yr, 4,870 lb-SOx/yr, 25,266 lb-PM10/yr, 3,095 lb-CO/yr, and 17,140 lb-VOC/yr.

Enclosed are copies of the ERC Certificates and a copy of the notice of final action that has been posted on the District's website (https://valleyair.org/).

Notice of the District's preliminary decision to issue the ERC Certificates was posted on December 29, 2025. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on December 29, 2025. All comments received following the District's preliminary decision on this project were considered.

Comments received by the District during the public notice period were minor and did not affect the basis for issuance of the above referenced ERCs. The comments and District responses are included in Appendix VII of the attached revised ERC banking analysis.

Also enclosed is an invoice for the engineering evaluation fees pursuant to District Rule 3010. Please remit the amount owed, along with a copy of the attached invoice, within 60 days.

Samir Sheikh
Executive Director/Air Pollution Control Officer

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

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

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

www.valleyair.org www.healthyairliving.com

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Nick Peirce at (209) 557-6400.

Sincerely,

Brian Clements
Director of Permit Services

BC:JK

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email
cc: EPA Region 9 Air Permitting Manager (w/enclosure) via EPS

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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Emission Reduction Credit Certificate
N-1589-1

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: February 11, 2026

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For VOC Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
2,393 lbs	5,347 lbs	5,778 lbs	3,622 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

San Joaquin Valley Unified Air Pollution Control District

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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Emission Reduction Credit Certificate
N-1589-2

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: February 11, 2026

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For NOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
1,329 lbs	2,499 lbs	2,634 lbs	1,951 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718

Emission Reduction Credit Certificate
N-1589-3

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: February 11, 2026

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For CO Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
469 lbs	875 lbs	949 lbs	802 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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Emission Reduction Credit Certificate
N-1589-4

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: February 11, 2026

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For PM10 Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
3,775 lbs	7,921 lbs	7,879 lbs	5,691 lbs

Portion of above PM10 Reductions that is PM2.5:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
37.0%	36.0%	36.0%	37.0%
1,397 lbs	2,852 lbs	2,836 lbs	2,106 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

San Joaquin Valley Unified Air Pollution Control District

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718

Emission Reduction Credit Certificate
N-1589-5

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: February 11, 2026

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For SOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
732 lbs	1,454 lbs	1,585 lbs	1,099 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

2/11/2026 3:54:13 PM – HARADERJ

San Joaquin Valley Air Pollution Control District

ERC Banking Application Review

Shutdown of Corn Wet Milling Plant

Facility Name:	Ingredion Incorporated	Date:	December 24, 2025
		Revised:	February 9, 2026
Mailing Address:	PO Box 6129 Stockton, CA 95206	Engineer:	Jag Kahlon
		Lead Engineer:	James Harader
Contact Person:	David Brau		
Telephone:	(708) 236-5224		
ERC #(s):	N-1589-1, '-2, '-3, '-4, '-5		
Project #:	N-1191798		
Deemed Complete:	September 17, 2020		

I. PROPOSAL

Ingredion Incorporated has proposed to bank Emission Reduction Credits (ERC) from shutdown of emission units at their corn wet milling plant in Stockton, California. The plant had shutdown in December 2018. The following table summarizes the quarterly bankable emissions reductions:

Bankable Emission Reductions (pounds)				
Pollutant	**Q1**	**Q2**	**Q3**	**Q4**
NO_x	1,329	2,499	2,634	1,951
SO_x	732	1,454	1,585	1,099
PM_{10}	3,775	7,921	7,879	5,691
$PM_{2.5}$ in PM_{10}	1,397	2,852	2,836	2,106
CO	469	875	949	802
VOC	2,393	5,347	5,778	3,622

No other facilities exist within the San Joaquin Valley Air Pollution Control District that manufacture the types of products that were manufactured by Ingredion. Ingredion expects these types of products will be imported from other areas of the country or overseas. Therefore, no load shifting to other sites within the San Joaquin Valley Air Pollution Control District will occur.

This evaluation was revised on February 9, 2026, to include the District's response to Public Comments (**Appendix VII**), and to update the presentation as outlined in the District's responses to comments.

Refer to **Appendix I** for draft ERC Certificates.

II. APPLICABLE RULES

Rule 2201	New and Modified Stationary Source Review Rule (4/20/23)
Rule 2301	Emission Reduction Credit Banking (4/20/23)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emission Standards for Hazardous Air Pollutants (5/20/04)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4202	Particulate Matter – Emissions Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4305	Boilers, Steam Generators, and Process Heaters – Phase 2 (8/21/03)
Rule 4306	Boilers, Steam Generators, and Process Heaters – Phase 3 (12/17/20)
Rule 4309	Dryers, Dehydrators, and Ovens (12/15/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters greater than 5.0 MMBtu/hr (12/17/20)
Rule 4351	Boilers, Steam Generators, and Process Heaters – Phase 1 (8/21/03)
Rule 4703	Stationary Gas Turbines (9/20/07)
Rule 4801	Sulfur Compounds (12/17/92)

Air Quality Plans
Rules and Regulations in State Implementation Plan

III. LOCATION OF REDUCTIONS

Emission reductions occurred at 1021 Industrial Drive, Stockton, California.

IV. METHOD OF GENERATING REDUCTIONS

The emission reductions are from the permanent shutdown of emissions units at the corn wet milling plant.

VII. EMISSION CALCULATIONS

A. Assumptions

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

B. Emission Factors

The equipment description for each permit unit is shown below, followed by the potential emission factors for each operation associated with the permit.

N-238-1-5:
CORN RECEIVING AND STORAGE OPERATION CONSISTING OF: RECEIVING PITS, VARIOUS CONVEYING EQUIPMENT, AND THREE HOPPERS ALL VENTED TO A CARTER-DAY MODEL 376-RF8 BAGHOUSE AND THREE STORAGE BINS EACH EQUIPPED WITH A BIN VENT FILTER. THE THIRD STORAGE SILO (#3) IS SERVED BY A DCL, INC. MODEL BV25-58-112A912Z-TO BAGHOUSE. MATERIAL COLLECTED BY THE CARTER-DAY MODEL 376-RF8 BAGHOUSE IS PNEUMATICALLY CONVEYED TO A BALL 58-FR-18 CYCLONAIRE FILTER RECEIVER AND RECYCLED BACK INTO THE CORN RECEIVING SYSTEM.

PM_{10}:

There were multiple operations under this permit. These operations were sources of particulate matter emissions, and were served by dust collectors. The following table compares emission factors that may be used to determine the historical actual emissions from each operation. The District chose the most conservative factors (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions for each operation.

Operations	Permit Limit	Rule 4201	Source Testing/ other sources	AP-42
Corn receiving and transfer	0.002 gr-PM/dscf, 0.93 lb/hr (controlled)	0.1 gr/dscf	None	**Table 9.9.1-1 (3/03)** **0.0078 lb-PM_{10}/ton (grain receiving, no control)** **0.034 lb-PM_{10}/ton (grain transfer headhouse and grain handling, no control)** **Total (uncontrolled) = 0.0078 + 0.034 = 0.0418 lb-PM10/ton of material** **Total (controlled), calculated = (0.0418)x(1-0.99) = 0.000418 lb-PM_{10}/ton of material***
Filter receiver	0.02 gr-PM/dscf, 0.088 lb/hr (controlled)	0.1 gr/dscf	None	**0.00015 lb-PM_{10}/ton (controlled)****

Operations	Permit Limit	Rule 4201	Source Testing/ other sources	AP-42
Corn loading into silos	0.002 gr-PM/dscf, 0.93 lb/hr (controlled)	0.1 gr/dscf	None	**Table 9.9.1-1 (3/03)** **0.0063 lb-PM_{10}/ton (no control)** **Total (controlled) = (0.0063) x (1-0.99) = 0.000063 lb-PM_{10}/ton of material**

* EPA's Fact Sheet EPA-452/F-03-024 indicate that the existing equipment served by a baghouse have a range of actual operating efficiencies of 95 to 99.9%. Further, the District practice is to use 99% control efficiency for baghouses. Thus, control efficiency of 99% is used in estimating the emissions.

**The material from the Carter-Day dust collector was pneumatically conveyed into a filter receiver from where it was recycled in the process. AP-42 Section 9.9.1-1 (3/03) does not have an EF for pneumatic conveyance. An EF from AP-42 Table 11.12-2 (6/06) for cement unloading (pneumatic) is adjusted using densities of cement (94 lb/ft^3) and corn meal (40 lb/ft^3) as follows: 0.00034 lb-PM10/ton of material x (40/94) = 0.00015 lb-PM10/ton of material

N-238-2-3:

CORN CLEANING OPERATION WITH: THREE DRAG CONVEYORS AND ONE ELEVATOR VENTED TO A BIN FILTER; A SCALPER AND ASPIRATED CORN CLEANER, TWO HOPPERS, AND VARIOUS CONVEYORS ALL VENTED TO A CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM; AND ONE CORN CLEANINGS HOPPER AND ONE CORN CLEANINGS SILO VENTED TO A SECOND CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM

PM_{10}:

There were multiple operations under this permit. These operations were sources of particulate matter emissions, and were served by dust collectors. The following table compares emission factors that may be used to determine the historical actual emissions from each operation. The District chose the most conservative factors (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions for each operation.

Operations	Permit Limit	Rule 4201	Source Testing/ other sources	AP-42
Corn transfer	0.002 gr-PM/dscf, 0.017 lb/hr (controlled)	0.1 gr/dscf	None	**Table 9.9.1-1 (3/03)** **0.034 lb-PM_{10}/ton (grain transfer headhouse and grain handling, no control)** **0.034 x (1-0.99*) = 0.00034 lb-PM_{10}/ton (controlled)** Table 9.9.7-1 (1/95) 0.87 lb-PM_{10}/ton (grain handling, no control)
Corn cleaner and scalper vented to baghouse	0.002 gr-PM/dscf, 0.213 lb/hr (controlled)	0.1 gr/dscf	None	**Table 9.9.1-1 (3/03)** **0.019 lb-PM_{10}/ton (grain cleaning, cyclone)** **0.019 lb-PM_{10}/ton x (1-0.99*)/(1-0.50**) = 0.00038 lb-PM_{10}/ton (controlled)** Table 9.9.7-1 (1/95) 0.17 lb-PM_{10}/ton (grain cleaning, cyclone)
Corn cleaning silo with dust collector	0.002 gr-PM/dscf, 0.014 lb/hr (controlled)	0.1 gr/dscf	None	**0.0063 lb-PM_{10}/ton (storage bin-vent, no control)** **0.0063 x (1-0.99) = 0.000063 lb-PM_{10}/ton (controlled)**

* EPA's Fact Sheet EPA-452/F-03-024 indicate that the existing equipment served by a baghouse have a range of actual operating efficiencies of 95 to 99.9%. Further, the District practice is to use 99% control efficiency for baghouses. Thus, control efficiency of 99% is used in estimating the emissions.
** The original AP-42 Emission factor is for an operation served by a cyclone. Dividing by (1-0.50) adjusts the uncontrolled emission factor assuming a 50% control for a cyclone (District Practice for a standard efficiency cyclone).

N-238-8-3:
GLUTEN MILLING, TRANSFER, AND STORAGE SERVED BY A CARTER-DAY DUST COLLECTOR, TYPE R-F

PM_{10}:
The milling, transfer and storage units were sources of particulate matter emissions and were served by a dust collector system. The following table summarizes the emissions factors. The District chose the most conservative factors (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions for each operation.

Operations	Permit Limit	Rule 4201	Source Testing/other sources	AP-42
Gluten milling served by dust collector	0.002 gr-PM/dscf, 0.036 lb/hr (controlled)	0.1 gr/dscf	None	Table 9.9.7-1 (1/95) No Data **Table 9.9.1-2 (3/03)** **Hammermill with baghouse: 0.012 lb-PM_{10}/ton of material processed**
Milled gluten transfer	None	None	None	**Table 9.9.7-1 (1/95)** **0.00049 lb-PM_{10}/ton of material processed**
Storage silos served by dust collectors	--	0.1 gr/dscf	None	**Table 9.9.1-1 (3/03)** **0.0063 lb-PM_{10}/ton (storage bin-vent, no control)** **Total (controlled) = (0.0063) x (1-0.99) = 0.000063 lb-PM_{10}/ton of material**

N-238-9-5:
BULK GLUTEN LOADOUT SYSTEM WITH A LOADOUT SYSTEM SUPPLY CONVEYOR WITH A CLEAN DRAWER MAGNET, A STATIONARY HOOD AND A DSH SYSTEMS LTD FIXED LOADING SPOUT SERVED BY AN ALANCO MODEL 378-RLP-FILTER BAGHOUSE, AND AN ENCLOSED COLLECTION HOPPER WITH A HAPMAN BAG FILLER MATERIAL HANDLING SYSTEM

PM_{10}:

The gluten meal and starch bulk densities are comparable (gluten meal: 40 lb/ft^3, starch: 50 lb/ft^3); therefore, the permitted emission factors were compared to the AP-42 emission factors for starch operations. The District chose the most conservative factors (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions for each operation.

Operations	Permit Limit	Rule 4201	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
Gluten meal loadout	0.004 lb-PM_{10}/ton; 150 tons/day	0.1 gr/dscf	None	**0.00049 lb-PM/ton for starch bulk loadout with fabric filter**
Bagging operation	0.0036 lb-PM_{10}/ton; 500 lb/day	0.1 gr/dscf	None	**0.00049 lb-PM/ton for starch bulk loadout with fabric filter**

N-238-10-10:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

NOx:
A NOx source test was not conducted in 2017 through 2019 (i.e., during the baseline period Q2 2017 through Q1 2019). However, source test results of October 26, 2016 test indicates 4.3 ppmvd NOx. Refer to Appendix III for source test summary pages. The following table summarizes the emissions factor. The factors from the different sources were identical.

Permit Limit	Rule 4309	Source Testing/other sources	AP-42 Table 1.4-1
4.3 ppmvd @ 19% O_2 (0.048 lb/MMBtu) or 4.3 ppmv if >19% O_2	**Same as permit limit**	**4.3 ppmv, O_2 = 19.8%, equates to 0.05 lb/MMBtu**	**0.05 lb/MMBtu***

*EF for small boilers <100 MMBtu/hr equipped with low NOx burners, higher heating value of 1,000 Btu/scf is used for natural gas.

SOx:

The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4309	Source Testing/other sources	AP-42 Table 1.4-2
0.00285 lb/MMBtu	None	--	**0.0006 lb/MMBtu**

PM_{10}:

The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4309	Rule 4201	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
0.24 lb-PM_{10}/ton of starch dried*	None	0.1 gr/dscf	**--**	0.59 lb-PM/ton of starch dried**

*EF includes combustion and process emissions
**This AP-42 EF is for natural gas combustion only and was converted to lb-PM10/ton of dried starch using the permitted throughput for the operation (320 tons/day).

CO:

Source test was not conducted in 2017 through 2019 (i.e., during the baseline period Q2 2017 through Q1 2019). However, source test results of October 26, 2016 test indicates 0.3 ppmvd CO. Refer to Appendix III for source test summary pages. The following table summarizes the emissions factors. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4309	Source Testing/other sources	AP-42 Table 1.4-1
42 ppmvd @ 19% O_2 (0.286 lb/MMBtu)	42 ppmvd @ 19% O_2	**0.3 ppm, O_2=19.8% equates to 0.0034 lb/MMBtu**	0.084 lb/MMBtu*

*EF for small boilers <100 MMBtu/hr, higher heating value of 1,000 Btu/scf is used for natural gas.

VOC:

The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4309	Source Testing/other sources	AP-42 Table 1.4-2
20 lb-VOC/day	None	None	**0.0055 lb/MMBtu**

N-238-13-7:
ONE (1) GERM DRYER SERVED BY A CYCLONE, A DUCON TYPE L MODEL II PARTICULATE SCRUBBER, AND A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER.

SOx:

The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4801	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
0.50 lb-SOx/hr	0.2% by vol. or 2000 ppmv, dry basis averaged over 15 minutes	**0.026 lb-SOx/hr per source test on March 4, 1997**	No data

Note, the above lb-SOx/hr value will be modified to be a lb-SOx/ton of material processed value. However, throughput data wasn't recorded during the source test

Dividing by the highest continuous throughput rate, in tons/hr, yields the lowest lb-SOx/ton emission factor and will result in the most conservative historical actual emissions for the unit. Pursuant to the applicant, the highest continuous throughput rate was approximately 3.45 tons/hr.

Equivalent EF = 0.026 lb-SOx/hr ÷ 3.45 tons/hr **= 0.07536 lb-SOx/ton**

PM_{10}:

The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4201	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
0.62 lb-PM_{10}/hr **0.023 gr-PM_{10}/dscf (noted in the app review under project N-970007)**	0.1 gr/dscf	Not tested for PM10 emissions	No data

During the source test, the recorded airflow rate was 2,838 dscf/min. Thus,

0.023 gr-PM_{10}/dscf x 2,838 dscf/min x 60 min/hr lb/7000 gr = 0.56 lb-PM_{10}/hr

Converting this to a lb/ton value using the same method as for SOx, this becomes:

Equivalent EF = 0.56 lb-PM_{10}/hr ÷ 3.45 tons/hr = **0.16219 lb-PM_{10}/ton**

VOC:

The district chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Regulation IV Rules	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
1.9 lb-VOC/hr	None	**0.42 lb-VOC/hr (as methane) per source test on March 4, 1997**	No data

Note, the above lb-VOC/hr value will be modified to be a lb-VOC/ton of material processed value. However, throughput data wasn't recorded during the source test

Dividing by the highest continuous throughput rate, in tons/hr, yields the lowest lb-VOC/ton emission factor and will result in the most conservative historical actual emissions for the unit. Pursuant to the applicant, the highest continuous throughput rate was approximately 3.45 tons/hr.

Equivalent EF = 0.42 lb-VOC/hr ÷ 3.45 tons/hr **= 0.12175 lb-SOx/ton**

N-238-14-3:
GERM TRANSFER AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

PM_{10}:

The material conveying operation under this permit is similar to the operation under permit N-238-11-6. Therefore, EF established under project N-1180639 for permit N-238-11-6 will be used here. Note that permit N-238-11-6 is not a part of this ERC banking application. The following table summarizes the emissions factor. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4201	Other sources	AP-42 Table 9.9.7-1 (1/95)
0.1 gr-PM/dscf 0.002 gr-PM/dscf, 0.043 lb-PM/hr	0.1 gr-PM/dscf	**0.0038 lb-PM_{10}/ton of material (Permit N-238-11-6)**	No data

N-238-15-3:
BULK GERM LOADOUT

PM_{10}:
This loadout operation resembles to a grain shipping operation.

Permit Limit	Rule 4201, 4202	Source Testing/other sources	AP-42 Table 9.9.1-1 (3/03)
None	None	None	**0.029 lb-PM_{10}/ton of shipping via truck**

N-238-16-3:
FILTER-AID RECEIVING AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

PM_{10}:

The consistency of the filter-aid material is assumed to be similar to carbon material. Therefore, EF established for permit N-238-17-4 (under project N-1172970) will be used here. The following table summarizes the potential emissions factors that may be used to determine emissions from this operation. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Operations	Permit Limit	Rule 4201, 4202	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
Filter-aid receiving and storage served by baghouse	0.01 lb-PM_{10}/hr (controlled)	0.1 gr/dscf	**0.0028 lb-PM_{10}/ton of material (PTO N-238-17-4)**	No data

N-238-17-5:
PNEUMATIC RECEIVING OF POWDER ACTIVATED CARBON MATERIAL INTO A SILO EQUIPPED WITH A CYCLONAIRE MODEL 58-FR-24 AARG II D FILTER RECEIVER/DUST COLLECTOR SYSTEM

PM_{10}:

Per application review under project N-1172970, EF for the operation is 0.0028 lb/ton of product. The following table summarizes the emissions factors that may be used for this operation. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Operations	Permit Limit	Rule 4201, 4202	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
Receiving of activated carbon	None	0.1 gr/dscf	**0.0028 lb-PM_{10}/ton of material**	No data

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

NOx:

Refer to Appendix III for source test summary pages. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4703	Source Testing/other sources		AP-42 Table 3.1-1 (4/00)
9 ppmvd @ 15% O_2	9 ppmvd @ 15% O_2	Test Date	**NOx (ppmvd @ 15% O_2)**	See note* (0.13 lb/MMBtu – NG turbine with water-steam injection)
		2019	Not tested	
		2018	Not tested	
		11/16/17	**3.1**	

*EF is not available for cogen systems equipped with SCR systems.

SOx:

The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4703	Source Testing/other sources	AP-42 Table 3.1-2a (4/00)
1.0 gr-S/100 dscf of natural gas (equates to 0.00285 lb/MMBtu natural gas)	None	--	0.0034 lb/MMBtu

PM_{10}:

The identified emission factors for this pollutant were identical.

Permit Limit	Rule 4703	Source Testing/other sources	AP-42 Table 3.1-2a (4/00)
0.0066 lb/MMBtu	None	--	0.0066 lb/MMBtu

CO:

Refer to Appendix III for source test summary page. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Permit Limit	Rule 4703	Source Testing/other sources		AP-42 Table 3.1-1 (4/00)
120 ppmvd @ 15% O_2	200 ppmvd @ 15% O2	Test Date	CO (ppmvd @ 15% O2)	See note*
		2019	Not tested	
		2018	Not tested	
		11/16/17	**3.6**	

*CO factor is not available for cogen systems.

VOC:

The emission factors identified for this pollutant were identical.

Permit Limit	Rule 4703	Source Testing/other sources	AP-42 Table 3.1-2a (4/00)
0.0021 lb/MMBtu	None	None	0.0021 lb/MMBtu

N-238-19-7:
ONE 12,000 GALLON ABOVE GROUND SALT SLURRY STORAGE TANK

PM_{10}:
The following table summarizes the potential emission factors. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

Operations	Permit Limit	Rule 4201, 4202	Source Testing/other sources	AP-42 Section 9.9.7-1 (1/95)
Receiving of ground salt into salt slurry tank	0.003 lb-PM_{10}/ton of salt received	0.1 gr-PM/dscf	0.0028 lb-PM_{10}/ton of material*	No data

*EF taken from N-238-17-5 above

N-238-24-7:
FIRST GRIND OVERFLOW TANK SERVED BY A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER AND A BIOTON MODEL 2-2-34 BIOFILTER (THE CONTROL EQUIPMENT ALSO SERVES N-238-33)

This permit unit shares emission control equipment with unit N-238-33. Please refer to emission factors under permit N-238-33.

N-238-25-5:
GLUTEN DEWATERING FILTER AND VACUUM SYSTEMS WITH A SOX SCRUBBER ON THE EXHAUST STREAM

The following tables summarize the emission factors for this permit unit. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

SOx:

Permit Limit	Rule 4801	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
0.146 lb-SOx/hr when exhaust gases pass through scrubber 0.250 lb-SOx/hr when exhaust gases bypass the scrubber during maintenance period	0.2% by vol. or 2000 ppmv, dry basis averaged over 15 minutes	None*	No data

*Unable to locate source test results report from initial source test. Source testing files in permits database were reviewed between 1991 through 1993.

Conservatively, the District will assume that the steady state emission factor was applicable during the entire baseline period and use the lower steady-state emission rate to determine emissions.

Note, the above lb-SOx/hr value will be modified to be a lb-SOx/ton of material processed value. However, throughput data wasn't recorded during the source test

Dividing by the highest continuous throughput rate, in tons/hr, yields the lowest lb-SOx/ton emission factor and will result in the most conservative historical actual emissions for the unit. Pursuant to the applicant, the highest continuous throughput rate was approximately 2.05 tons/hr.

Equivalent EF = 0.146 lb-SOx/hr ÷ 2.05 tons/hr **= 0.07122 lb-SOx/ton**

VOC:

Permit Limit	Regulation IV Rules	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
2.083 lb-VOC/hr	None	None*	ND

*Unable to locate source test results from initial source test. Source testing files in permits database were reviewed between 1991 through 1993.

Note, the above lb-VOC/hr value will be modified to be a lb-VOC/ton of material processed value. However, throughput data wasn't recorded during the source test

Dividing by the highest continuous throughput rate, in tons/hr, yields the lowest lb-VOC/ton emission factor and will result in the most conservative historical actual emissions for the unit. Pursuant to the applicant, the highest continuous throughput rate was approximately 2.05 tons/hr.

Equivalent EF = 2.083 lb-VOC/hr ÷ 2.05 tons/hr **= 1.0163 lb-VOC/ton**

N-238-29-4:
SULFUROUS ACID PLANT CONSISTING OF: AN ELEMENTAL SULFUR BURNER AND TWO ABSORBERS VENTED TO A LUNDBERG SCRUBBER WITH A MIST ELIMINATOR; TWELVE STEEP TANKS (69,000 GAL. EACH) AND ONE DRAW TANK VENTED TO THE LINDBERG SCRUBBER SERVING THE ACID PLANT

The following tables summarize the emission factors for this permit unit. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

SOx:

Permit Limit	Rule 4801	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
0.7 lb-SOx/ton of elemental sulfur burned* 2,000 ppmvd averaged over 15-consecutive minutes	0.2% by vol. or 2000 ppmv, dry basis averaged over 15 minutes	None	No data

*Limits were established using manufacturer guaranteed data of 25 ppm (or less) of SO_2 at the scrubber stack

N-238-33-5:
GLUTEN PROCESSING OPERATION CONSISTING OF GLUTEN DRYER (DAVENPORT MODEL RSTD), A GLUTEN CONDITIONER, AND ASSOCIATED CONVEYING SYSTEM. THE GLUTEN CONDITIONER IS VENTED TO THE GLUTEN DRYER WHICH IS SERVED BY A CYCLONE FOLLOWED BY A PARTICULATE MATTER SCRUBBER, A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER, AND A BIOTON MODEL 2-2-34 BIOFILTER (THE SOX & VOC CONTROLS ARE SHARED WITH PERMIT N-238-24)

The following tables summarize the emission factors for both permit units N-238-24 & '-33. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission reductions.

SOx:

Permit Limit	Rule 4801	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
1.25 lb-SOx/hr (combined limit for permits N-238-24 & '-33)	0.2% by vol. or 2000 ppmv, dry basis averaged over 15 minutes	**0.074 lb-SOx/hr* per source test on March 4, 1997**	No data

*Emissions includes contribution from gluten dryer (N-238-7) as well as from first grind overflow tank (N-238-24). Gas flow rate from first grind overflow tank is unknown. Gluten dryer (N-238-7) was replaced in 2004, and a new permit N-238-33 was issued for the dryer. This is the only source test done on this permit unit.

Note, the above lb-SOx/hr value will be modified to be a lb-SOx/ton of material processed value. However, throughput data wasn't recorded during the source test

Dividing by the highest continuous throughput rate, in tons/hr, yields the lowest lb-SOx/ton emission factor and will result in the most conservative historical actual emissions for the unit. Pursuant to the applicant, the highest continuous throughput rate was approximately 2.05 tons/hr.

Equivalent EF = 0.074 lb-SOx/hr ÷ 2.05 tons/hr **= 0.036098 lb-SOx/ton**

VOC:

Permit Limit	Regulation IV Rules	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
0.33 lb-VOC/hr (combined limit for permits N-238-24 & '-33)	None	**0.26 lb-VOC/hr* (as methane) per source test on March 4, 1997**	No data

*Emissions includes contribution from gluten dryer (N-238-7) as well as from first grind overflow tank (N-238-24). Gas flow rate from first grind overflow tank is unknown. Gluten dryer (N-238-7) was replaced in 2004, and a new permit N-238-33 was issued for the dryer. This is the only source test done on this permit unit.

Note, the above lb-VOC/hr value will be modified to be a lb-VOC/ton of material processed value. However, throughput data wasn't recorded during the source test

Dividing by the highest continuous throughput rate, in tons/hr, yields the lowest lb-VOC/ton emission factor and will result in the most conservative historical actual emissions for the unit. Pursuant to the applicant, the highest continuous throughput rate was approximately 2.05 tons/hr.

Equivalent EF = 0.26 lb-VOC/hr ÷ 2.05 tons/hr **= 0.126829 lb-VOC/ton**

PM_{10}:

Operations	Permit Limit	Rule 4201, 4202	Source Testing/other sources	AP-42 Table 9.9.7-1 (1/95)
Gluten dryer	**1.04 lb/hr;** 0.1 gr/dscf	0.1 gr/dscf	None	No data

Note, the above lb-PM_{10}/hr value will be modified to be a lb-PM_{10}/ton of material processed value. However, throughput data wasn't recorded during the source test

Dividing by the highest continuous throughput rate, in tons/hr, yields the lowest lb-PM_{10}/ton emission factor and will result in the most conservative historical actual emissions for the unit. Pursuant to the applicant, the highest continuous throughput rate was approximately 2.05 tons/hr.

Equivalent EF = 1.04 lb-PM_{10}/hr ÷ 2.05 tons/hr **= 0.50748 lb-PM_{10}/ton**

N-238-41-4:
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

The following tables summarize the emission factors for this permit unit. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission
NOx:

The following table summarizes the emissions. Refer to Appendix III for source test summary pages.

Permit Limit	Rule 4320	Source Testing/other sources		AP-42 Table 1.4-1 (7/98)
7 ppmvd @ 3% O2 (0.008 lb/MMBtu); 131.0 lb-NOx/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 20,616 lb-NOx/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	**2.5 ppmvd @ 3% O2 (0.003 lb/MMBtu)**	Test Date	NOx (ppmvd @ 3% O_2)	0.1 lb/MMBtu*
		2019	Not tested	
		2018	Not tested	
		11/16/17	5.7	
		2016	Not tested	

*EF = 100 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.1 lb/MMBtu; Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

SOx:

Permit Limit	Rule 4801	Source Testing/other sources	AP-42 Table 1.4-2 (7/98)
0.0029 lb/MMBtu 15.8 lb-SOx/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 5,767 lb-SOx/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	0.2% by vol. or 2000 ppmv, dry basis averaged over 15 minutes	NA	**0.0006 lb/MMBtu***

*EF = 0.6 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.0006 lb/MMBtu. Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

PM_{10}:

Permit Limit	Rule 4320	Source Testing/other sources	AP-42 Table 1.4-2 (7/98)
0.0076 lb/MMBtu 55.4 lb-PM_{10}/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 20,236 lb-PM_{10}/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	None	**0.003 lb-PM_{10}/MMBtu (District practice, latest generally accepted EF)**	0.0076 lb/MMBtu*

*EF (Total) = EF (condensable) + EF (Filterable) = 5.7 lb/10^6 scf + 1.9 lb/10^6 scf = 7.6 lb/10^6 scf; 7.6 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.0076 lb/MMBtu. Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

CO:

Refer to Appendix III for source test summary page.

Permit Limit	Rule 4320	Source Testing/other sources		AP-42 Table 1.4-1 (7/98)
50 ppmvd @ 3% O2 (0.037 lb/MMBtu); 1,318.2 lb-CO/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 59,841 lb-CO/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	400 ppmvd @ 3% O2 (0.295 lb/MMBtu)	Test Date	CO (ppmvd @ 3% O2)	0.084 lb/MMBtu*
		2019	Not tested	
		2018	Not tested	
		11/16/17	**3.3**	
		2016	Not tested	

*EF = 84 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.084 lb/MMBtu. Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

VOC:

Permit Limit	Rule 4320	Source Testing/other sources	AP-42 Table 1.4-2 (7/98)
10 ppmvd @ 3% O2 (0.004 lb/MMBtu); 88.7 lb-VOC/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 7,119 lb-VOC/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	None	None	0.0055 lb/MMBtu

*EF = 5.5 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.0055 lb/MMBtu. Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

N-238-42-3:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

The following tables summarize the emission factors for this permit unit. The district chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission

NOx:

The following table summarizes the emissions. Refer to Appendix III for source test summary pages.

<table>
<tr><th>Permit Limit</th><th>Rule 4320</th><th colspan="2">Source Testing/other sources</th><th>AP-42 Table 1.4-1 (7/98)</th></tr>
<tr><td rowspan="4">7 ppmvd @ 3% O2 (0.008 lb/MMBtu);

131.0 lb-NOx/day combined limit for N-238-41, '-42, '-44, '-45 & '-46

20,616 lb-NOx/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46</td><td rowspan="4">2.5 ppmvd @ 3% O2 (0.003 lb/MMBtu)</td><td>Test Date</td><td>NOx (ppmvd @ 3% O2)</td><td rowspan="4">0.1 lb/MMBtu*</td></tr>
<tr><td>2015 through 2019</td><td>Not tested</td></tr>
<tr><td rowspan="2">7/15/14</td><td rowspan="2">2.9</td></tr>
<tr></tr>
</table>

*EF = 100 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.1 lb/MMBtu; Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

SOx:

Permit Limit	Rule 4801	Source Testing/other sources	AP-42 Table 1.4-2 (7/98)
0.00285 lb/MMBtu 15.8 lb-SOx/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 5,767 lb-SOx/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	0.2% by vol. or 2000 ppmv, dry basis averaged over 15 minutes	NA	**0.0006 lb/MMBtu***

*EF = 0.6 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.0006 lb/MMBtu. Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

PM_{10}:

Permit Limit	Rule 4320	Source Testing/other sources	AP-42 Table 1.4-2 (7/98)
0.0076 lb/MMBtu 55.4 lb-PM_{10}/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 20,236 lb-PM_{10}/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	None	**0.003 lb-PM_{10}/MMBtu (District practice, latest generally accepted EF)**	0.0076 lb/MMBtu*

*EF (Total) = EF (condensable) + EF (Filterable) = 5.7 lb/10^6 scf + 1.9 lb/10^6 scf = 7.6 lb/10^6 scf; 7.6 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.0076 lb/MMBtu. Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

CO:

Refer to Appendix III for source test summary page.

Permit Limit	Rule 4320	Source Testing/other sources		AP-42 Table 1.4-1 (7/98)
50 ppmvd @ 3% O2 (0.037 lb/MMBtu); 1,318.2 lb-CO/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 59,841 lb-CO/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	400 ppmvd @ 3% O2 (0.295 lb/MMBtu)	Test Date	CO (ppmvd @ 3% O2)	0.084 lb/MMBtu*
		2015 through 2019	Not tested	
		7/15/14	**0.2**	

*EF = 84 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.084 lb/MMBtu. Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

VOC:

Permit Limit	Rule 4320	Source Testing/other sources	AP-42 Table 1.4-2 (7/98)
10 ppmvd @ 3% O2 (0.004 lb/MMBtu); 88.7 lb-VOC/day combined limit for N-238-41, '-42, '-44, '-45 & '-46 7,119 lb-VOC/yr combined limit for N-238-41, '-42, '-44, '-45 & '-46	None	None	0.0055 lb/MMBtu

*EF = 5.5 lb/10^6 scf x scf/1,000 Btu x 10^6 Btu/MMBtu = 0.0055 lb/MMBtu. Higher heating value of natural gas is assumed to be 1,000 Btu/scf.

N-238-46-3:

7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

The following tables summarize the emission factors for both permit units N-238-24 & '-33. The District chose the most conservative factor (shown in bold font in the table below) that resulted in the lowest quantity of emission

NOx:

The following table summarizes the emissions. Refer to Appendix III for source test summary pages.

Permit Limit	Rule 4703	Source Testing/other sources		AP-42 Table 3.1-1 (4/00)
2.5 ppmvd @ 15% O2	5 ppmvd @ 15% O2	Test Date	NOx (ppmvd @ 15% O2)	See note*
		5/9/18	1.4	
		4/19/17	1.8	
		Avg.	**1.6**	

*EF is not available for cogen systems equipped with SCR systems.

SOx:

Permit Limit	Rule 4801	Source Testing/other sources	AP-42 Table 3.1-2a (4/00)
1.0 gr-S/100 dscf of natural gas (equates to 0.00285 lb/MMBtu natural gas)	0.2% by vol. or 2000 ppmv, dry basis averaged over 15 minutes	--	**0.0034 lb/MMBtu**

PM_{10}:

Permit Limit	Rule 4703	Source Testing/other sources		AP-42 Table 3.1-2a (4/00)
2.310 lb/hr (calculated using heat input rate of 231 MMBtu/hr and EF of 0.01 lb/MMBtu)	None	Test Date	PM (lb/MMBtu)	0.0066 lb/MMBtu
		5/9/18	0.0013[1,3]	
		4/19/17	0.0020[2,3]	
		Avg.	**0.0017**	

[1]Source test results 2018 = 0.23 lb-PM_{10}/hr (avg); 0.23 lb-PM_{10}/hr ÷ 174.3 MMBtu/hr = 0.0013 lb-PM_{10}/MMBtu;
[2]Source test results 2017 = 0.35 lb-PM_{10}/hr (avg); 0.35 lb-PM_{10}/hr ÷ 174.3 MMBtu/hr = 0.002 lb-PM_{10}/MMBtu;
[3]During 2017 & 2018 source test the average fuel flow to unit was 2,905.2 ft^3/min. Using higher heating value of 1,000 Btu/ft^3, the hourly heat input rate is estimated to be 174.3 MMBtu/hr (2,905.2 ft^3/min x 60 min/hr x 1,000 Btu/ft^3 x MMBtu/10^6 Btu = 174.3 MMBtu/hr);

CO:

Refer to Appendix III for source test summary page.

Permit Limit	Rule 4703	Source Testing/other sources		AP-42 Table 3.1-1 (4/00)
6.0 ppmvd @ 15% O2 (0.0134 lb/MMBtu); 3.095 lb/hr	200 ppmvd @ 15% O2	Test Date	CO (ppmvd @ 15% O2)	See note*
		5/9/18	0.09	
		4/19/17	0.81	
		Avg.	**0.45**	

*CO factor is not available for cogen systems;

VOC:

Permit Limit	Rule 4703	Source Testing/other sources		AP-42 Table 3.1-2a (4/00)
2.0 ppmvd @ 15% O2 (0.0026 lb/MMBtu); 0.601 lb/hr	None	Test Date	VOC (ppmvd @ 15% O2)	0.0021 lb/MMBtu
		5/9/18	0.9	
		4/18/17	0.3	
		Avg.	**0.6**	

C. Baseline Period

Section 3.8 of District Rule 2201 defines the baseline period as “two consecutive years immediately prior to the submission of a complete application” or “another time period of at least two years within five years immediately prior to the submission of the complete application determined by the APCO as more representative of normal source operation”.

The two consecutive years immediately prior to the submission of a complete application is not representative of normal source operation. Therefore, the baseline period for each permit unit is determined using five year data for the period from Q3 2014 to Q2 2019 (5 years prior to the application submittal) using the actual processing rate data supplied by the applicant.

The primary business of this facility was to receive shelled corn and process it into five products: (1) high fructose corn syrup, (2) starch, (3) feed, (4) gluten, and (5) germ. The records of high fructose corn syrup, starch, gluten and germ produced at this facility were available; using these records the baseline is determined to be Q2 2017 through Q1 2019. Also, feed production is estimated,

and use of this estimated production in the total production did not result in any changes to the baseline period.

D. Historical Actual Emissions

Historical Actual Emissions (HAEs) are the emissions that actually occurred, and are calculated from actual records and established emission factors per Rule 2201, Section 6.2.1.

N-238-1-5:
CORN RECEIVING AND STORAGE OPERATION CONSISTING OF: RECEIVING PITS, VARIOUS CONVEYING EQUIPMENT, AND THREE HOPPERS ALL VENTED TO A CARTER-DAY MODEL 376-RF8 BAGHOUSE AND THREE STORAGE BINS EACH EQUIPPED WITH A BIN VENT FILTER. THE THIRD STORAGE SILO (#3) IS SERVED BY A DCL, INC. MODEL BV25-58-112A912Z-TO BAGHOUSE. MATERIAL COLLECTED BY THE CARTER-DAY MODEL 376-RF8 BAGHOUSE IS PNEUMATICALLY CONVEYED TO A BALL 58-FR-18 CYCLONAIRE FILTER RECEIVER AND RECYCLED BACK INTO THE CORN RECEIVING SYSTEM.

PM_{10}:
Process rates during baseline period are shown in the following table.

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	113,513	123,466	100,542
2018	98,048	105,154	115,439	45,679
2019	0	--	--	--
Average	49,024	109,333	119,452	73,111

Except for filter receiver, HAEs are estimated using the following equation:

HAE (lb/qtr) = $EF_{Controlled}$ (lb-PM_{10}/ton of material) x Average Actual Process Rate (tons/qtr)

Operations	$EF_{Controlled}$	HAE (lb/qtr)			
	(lb-PM_{10}/ton of material)	Q1	Q2	Q3	Q4
Corn receiving and transfer	0.000418	20	46	50	31
Corn loading into silos	0.000063	3	7	8	5
Filter Receiver*	--	0	1	1	0
Total:		23	54	59	36

*Filter receiver HAEs are estimated below:

The material from the Carter-Day dust collector was pneumatically conveyed into a filter receiver from where it was recycled in the process. The HAE for the filter receiver is estimated as follows:

PM captured (lb/qtr) = ($EF_{uncontrolled}$ – $EF_{controlled}$) lb-PM_{10}/ton of material x Actual Process Rate (tons/qtr)

Operations	$EF_{Uncontrolled}$ - $EF_{Controlled}$	PM captured (lb/qtr)			
	(lb-PM_{10}/ton of material)	Q1	Q2	Q3	Q4
PM captured from Corn receiving and transfer	0.041382*	2,029	4,524	4,943	3,025

*0.0418 – 0.000418 = 0.041382 lb-PM_{10}/ton of material

HAE (lb/qtr) = $EF_{Controlled}$ lb-PM_{10}/ton of material x PM captured (lb/qtr) x ton/2,000 lb

Operations	$EF_{Controlled}$	HAE (lb/qtr)			
	(lb-PM_{10}/ton of material)	Q1	Q2	Q3	Q4
Filter Receiver	0.00015	0	1	1	0

N-238-2-3:
CORN CLEANING OPERATION WITH: THREE DRAG CONVEYORS AND ONE ELEVATOR VENTED TO A BIN FILTER; A SCALPER AND ASPIRATED CORN CLEANER, TWO HOPPERS, AND VARIOUS CONVEYORS ALL VENTED TO A CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM; AND ONE CORN CLEANINGS HOPPER AND ONE CORN CLEANINGS SILO VENTED TO A SECOND CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	111,700	121,494	98,937
2018	97,596	104,669	114,907	45,679
2019	0	--	--	--
Average	48,798	108,185	118,200	72,203

HAE:
HAE (lb/qtr) = $EF_{Controlled}$ (lb-PM_{10}/ton of material) x Average Actual Process Rate (tons/qtr)

Operations	$EF_{Controlled}$	HAE (lb/qtr)			
	(lb-PM_{10}/ton of material)	Q1	Q2	Q3	Q4
Corn transfer	0.00034	17	37	40	25
Corn cleaner and scalper vented to baghouse	0.00038	19	41	45	27
Corn cleaning silo with dust collector	0.000063	3	7	7	5
Total:		39	85	92	57

N-238-8-3:
GLUTEN MILLING, TRANSFER, AND STORAGE SERVED BY A CARTER-DAY DUST COLLECTOR, TYPE R-F

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	3,934	4,719	4,089
2018	4,017	3,685	3,909	1,462
2019	0	--	--	--
Average	2,009	3,810	4,314	2,775

HAE:
HAE (lb/qtr) = $EF_{Controlled}$ (lb-PM_{10}/ton of material) x Average Actual Process Rate (tons/qtr)

Operations	$EF_{Controlled}$	HAE (lb/qtr)			
	(lb-PM_{10}/ton of material)	Q1	Q2	Q3	Q4
Gluten milling served by dust collector	0.012	24	46	52	33
Milled gluten transfer	0.00049	1	2	2	1
Storage silos served by dust collectors	0.000063	0	0	0	0
Total:		25	48	54	34

N-238-9-5:
BULK GLUTEN LOADOUT SYSTEM WITH A LOADOUT SYSTEM SUPPLY CONVEYOR WITH A CLEAN DRAWER MAGNET, A STATIONARY HOOD AND A DSH SYSTEMS LTD FIXED LOADING SPOUT SERVED BY AN ALANCO MODEL 378-RLP-FILTER BAGHOUSE, AND AN ENCLOSED COLLECTION HOPPER WITH A HAPMAN BAG FILLER MATERIAL HANDLING SYSTEM

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	3,929	4,712	4,083
2018	4,017	3,685	3,909	1,462
2019	0	--	--	--
Average	2,009	3,807	4,311	2,772

HAE:
HAE (lb/qtr) = $EF_{Controlled}$ (lb-PM_{10}/ton of material) x Average Actual Process Rate (tons/qtr)

Operations	$EF_{Controlled}$	HAE (lb/qtr)			
	(lb-PM_{10}/ton of material)	Q1	Q2	Q3	Q4
Gluten meal loadout	0.00049	1	2	2	1
Bagging operation	0.00049	1	2	2	1
	Total:	2	4	4	2

Per section VI.E. - Rule 2201 New and Modified Stationary Source Review, HAEs for bagging operations needs to be adjusted to 0 lb/qtr. Thus, revised HAEs are provided in the following table:

Operations	$EF_{Controlled}$	HAE (lb/qtr)			
	(lb-PM_{10}/ton of material)	Q1	Q2	Q3	Q4
Gluten meal loadout	0.00049	1	2	2	1
Bagging operation	0.00049	0	0	0	0
	Total:	1	2	2	1

N-238-10-10:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

Natural gas consumed (MM cubic feet) during the baseline period is summarized in the following table.

Process Rate (MM cubic feet natural gas/qtr)				
Year	**Q1**	**Q2**	**Q3**	**Q4**
2017	--	9	10	9
2018	9	8	6	4
2019	0	--	--	--
Average	5	9	8	6

NOx:

EF (lb/MMBtu) = {EF (ppmvd @ 19% O2) x 46 lb-NO2/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-19)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Process Rate (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	**EF**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Dryer	4.3 ppmvd @ 19 O_2 (equates to 0.048 lb/MMBtu)	240	432	384	288

SOx:

HAE = EF (lb/MMBtu) x Process Rate (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	**EF (lb/MMBtu)**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Dryer	0.0006	3	5	5	4

PM_{10}:

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	**Q1**	**Q2**	**Q3**	**Q4**
2017	--	19,121	19,639	18,110
2018	17,130	15,702	11,721	7,167
2019	0	--	--	--
Average	8,565	17,412	15,680	12,638

HAE = EF (lb-PM10/ton of material) x Process Rate (tons/qtr)

Unit/Process	**EF (lb-PM_{10}/ton)**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Dryer	0.24	2,056	4,179	3,763	3,033

CO:

HAE = EF (lb/MMBtu) x Process Rate (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF (lb/MMBtu)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Dryer	0.0034	17	31	27	20

VOC:

HAE = EF (lb/MMBtu) x Process Rate (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF (lb/MMBtu)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Dryer	0.0055	28	50	44	33

N-238-13-7:
ONE (1) GERM DRYER SERVED BY A CYCLONE, A DUCON TYPE L MODEL II PARTICULATE SCRUBBER, AND A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER.

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	7,146	7,625	6,130
2018	6,070	6,598	6,956	2,886
2019	0	--	--	--
Average	3,035	6,872	7,291	4,508

HAE:
SOx:

HAE = Process Rate (tons/qtr) x EF (lb-SOx/ton)

Unit/Process	EF (lb/ton)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Germ Dryer	0.007536	23	52	55	34

PM_{10}:

HAE = Process Rate (tons/qtr) x EF (lb-PM_{10}/ton)

Unit/Process	EF (lb-PM_{10}/ton)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Germ Dryer	0.16219	492	1,115	1,182	731

VOC:

HAE = Process Rate (tons/qtr) x EF (lb-VOC/ton)

Unit/Process	EF (lb-VOC/ton)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Germ Dryer	0.121747	370	837	887	549

N-238-14-3:
GERM TRANSFER AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	7,146	7,625	6,130
2018	6,070	6,598	6,956	2,886
2019	0	--	--	--
Average	3,035	6,872	7,291	4,508

HAE:
HAE (lb/qtr) = $EF_{Controlled}$ (lb-PM_{10}/ton of material) x Average Actual Process Rate (tons/qtr)

Unit/Process	EF (lb-PM_{10}/ton of material)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Germ transfer & storage	0.0038	12	26	28	17

N-238-15-3:
BULK GERM LOADOUT

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	7,134	7,612	6,120
2018	6,070	6,598	6,956	2,886
2019	0	--	--	--
Average	3,035	6,866	7,284	4,503

HAE:
HAE (lb/qtr) = EF (lb-PM_{10}/ton of material) x Average Actual Process Rate (tons/qtr)

Unit/Process	EF (lb-PM_{10}/ton of material)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Bulk germ loadout	0.029	88	199	211	131

N-238-16-3:
FILTER-AID RECEIVING AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	286	323	264
2018	302	317	375	140
2019	0	--	--	--
Average	151	302	349	202

HAE:
HAE (lb/qtr) = EF (lb-PM_{10}/ton of material) x Average Actual Process Rate (tons/qtr)

Unit/Process	EF (lb-PM_{10}/ton of material)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Filter-aid receiving and storage	0.0028	0	1	1	1

N-238-17-5
PNEUMATIC RECEIVING OF POWDER ACTIVATED CARBON MATERIAL INTO A SILO EQUIPPED WITH A CYCLONAIRE MODEL 58-FR-24 AARG II D FILTER RECEIVER/DUST COLLECTOR SYSTEM

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	57	65	53
2018	61	65	76	28
2019	0	--	--	--
Average	31	61	70	41

HAE:
HAE (lb/qtr) = EF (lb-PM_{10}/ton of material) x Average Actual Process Rate (tons/qtr)

Unit/Process	EF (lb-PM_{10}/ton of material)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Receiving of activated carbon	0.0028	0	0	0	0

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

Natural gas consumed (MM cubic feet) during the baseline period is summarized in the following table.

Process Rate (MM cubic feet natural gas/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	74	90	83
2018	82	73	73	73
2019	0	--	--	--
Average	41	73	82	78

NOx:

EF (lb/MMBtu) = {EF (ppmvd @ 15% O_2) x 46 lb-NO_2/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-15)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine	3.1 ppmvd @ 15% O_2 (equates to 0.011 lb/MMBtu)	451	803	902	858

However, there is a SIP approved rule that requires lower emissions in another District in California. Pursuant to District practice, the emissions will be further discounted to that Rule limit. Per section VI.E – Rules & Regulations in State Implementation Plan (SIP), Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (February 4, 2022), HAEs for NOx are re-calculated using NOx limit in Rule 1134.

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine	2 ppmvd @ 15% O_2 (equates to 0.007 lb/MMBtu)	287	511	574	546

SOx:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine	0.00285 lb/MMBtu	117	208	234	222

PM_{10}:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine	0.0066 lb/MMBtu	271	482	541	515

CO:

EF (lb/MMBtu) = {EF (ppmvd @ 15% O_2) x 28 lb-CO/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-15)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF (lb/MMBtu)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine	3.6 ppmvd @ 15% O_2 (equates to 0.008 lb/MMBtu)	328	584	656	624

VOC:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine	0.0021 lb/MMBtu	86	153	172	164

N-238-19-7:
ONE 12,000 GALLON ABOVE GROUND SALT SLURRY STORAGE TANK

PM_{10}:
Process rates during baseline period are shown in the following table.

Process Rate (tons/qtr)				
Year	**Q1**	**Q2**	**Q3**	**Q4**
2017	--	12	14	11
2018	13	14	15	6
2019	0	--	--	--
Average	6	13	14	9

HAE = EF (lb/ton process) x Process Rate (tons/qtr)

Process	**EF (lb-PM_{10}/ton of material)**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Receiving of ground salt into salt slurry tank	0.0028	0	0	0	0

N-238-24-7:
FIRST GRIND OVERFLOW TANK SERVED BY A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER AND A BIOTON MODEL 2-2-34 BIOFILTER (THE CONTROL EQUIPMENT ALSO SERVES N-238-33)

HAE for N-238-24 are counted in N-238-33. Please refer to HAE under permit N-238-33.

N-238-25-5:
GLUTEN DEWATERING FILTER AND VACUUM SYSTEMS WITH A SOX SCRUBBER ON THE EXHAUST STREAM

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	**Q1**	**Q2**	**Q3**	**Q4**
2017	--	4,171	4,536	3,694
2018	3,518	3,773	4,142	1,639
2019	0	--	--	--
Average	1,759	3,972	4,339	2,667

HAE:

SOx:

HAE = Process Weight (tons/qtr) x EF (lb-SOx/ton)

Unit/Process	EF (lb-SOx/ton)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gluten dewater filter and vacuum system	0.146	125	283	309	190

VOC:

HAE = Process Weight (tons/qtr) x EF (lb-VOC/ton)

Unit/Process	EF (lb/hr)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gluten dewater filter and vacuum system	1.0163	1,787	4,037	4,410	2,710

N-238-29-4:
SULFUROUS ACID PLANT CONSISTING OF: AN ELEMENTAL SULFUR BURNER AND TWO ABSORBERS VENTED TO A LUNDBERG SCRUBBER WITH A MIST ELIMINATOR; TWELVE STEEP TANKS (69,000 GAL. EACH) AND ONE DRAW TANK VENTED TO THE LINDBERG SCRUBBER SERVING THE ACID PLANT

Actual Process Rate:

	Actual Process Rate (tons/qtr)			
Year	Q1	Q2	Q3	Q4
2017	--	91	99	81
2018	89	95	104	41
2019	0	--	--	--
Average	44	93	102	61

SOx:

HAE = EF (lb/ton process) x Process Rate (tons/qtr)

Unit/Process	EF (lb/ton of sulfur burned)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Sulfurous acid plant	0.7	31	65	71	43

N-238-33-5:
GLUTEN PROCESSING OPERATION CONSISTING OF GLUTEN DRYER (DAVENPORT MODEL RSTD), A GLUTEN CONDITIONER, AND ASSOCIATED CONVEYING SYSTEM. THE GLUTEN CONDITIONER IS VENTED TO THE GLUTEN DRYER WHICH IS SERVED BY A CYCLONE FOLLOWED BY A PARTICULATE MATTER SCRUBBER, A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER, AND A BIOTON MODEL 2-2-34 BIOFILTER (THE SOX & VOC CONTROLS ARE SHARED WITH PERMIT N-238-24)

Actual Process Rate:

Actual Process Rate (tons/qtr)				
Year	**Q1**	**Q2**	**Q3**	**Q4**
2017	--	4,171	4,536	3,694
2018	3,518	3,773	4,142	1,639
2019	0	--	--	--
Average	1,759	3,972	4,339	2,667

HAE:

SOx:

HAE = Process Weight (tons/qtr) x EF (lb-SOx/ton)

Unit/Process	**EF (lb-SOx/ton)**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Gluten processing operation	0.36098	63	143	157	96

VOC:

HAE = Process Weight (tons/qtr) x EF (lb-VOC/ton)

Unit/Process	**EF (lb-VOC/ton)**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Gluten processing operation	0.126829	223	504	550	338

PM_{10}:

HAE = Process Weight (tons/qtr) x EF (lb-PM_{10}/ton)

Unit/Process	EF (lb-PM_{10}/ton)	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gluten processing operation	0.50748	892	2,016	2,202	1,353

N-238-41-4:

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

Natural gas consumed (MM cubic feet) during the baseline period is summarized in the following table.

Process Rate (MM cubic feet natural gas/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	27	13	27
2018	20	36	37	0
2019	0	--	--	--
Average	10	31	25	14

NOx:

EF (lb/MMBtu) = {EF (ppmvd @ 3% O_2) x 46 lb-NO_2/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-3)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	2.5 ppmvd @ 3% O_2 (equates to 0.003 lb/MMBtu)	30	93	75	42

SOx:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	0.0006 lb/MMBtu	6	19	15	8

PM_{10}:

AE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	0.003 lb/MMBtu	30	93	75	42

CO:

EF (lb/MMBtu) = {EF (ppmvd @ 3% O2) x 28 lb-CO/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-3)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	3.3 ppmvd @ 3% O_2 (equates to 0.002 lb/MMBtu)	20	62	50	28

VOC:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	0.004 lb/MMBtu	40	124	100	56

N-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

Natural gas consumed (MM cubic feet) during the baseline period is summarized in the following table.

Process Rate (MM cubic feet natural gas/qtr)				
Year	Q1	Q2	Q3	Q4
2017	--	0	0	0
2018	0	0	0	0
2019	0	0	0	--
Average	0	0	0	0

NOx:

EF (lb/MMBtu) = {EF (ppmvd @ 3% O_2) x 46 lb-NO_2/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-3)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	2.5 ppmvd @ 3% O_2 (equates to 0.003 lb/MMBtu)	0	0	0	0

SOx:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	0.0006 lb/MMBtu	0	0	0	0

PM_{10}:

AE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	0.003 lb/MMBtu	0	0	0	0

CO:

EF (lb/MMBtu) = {EF (ppmvd @ 3% O_2) x 28 lb-CO/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-3)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	0.2 ppmvd @ 3% O_2 (equates to 0.00015 lb/MMBtu)	0	0	0	0

VOC:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Boiler	0.004 lb/MMBtu	0	0	0	0

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70

NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

Natural gas consumed (MM cubic feet) during the baseline period is summarized in the following table.

Process Rate (MM cubic feet natural gas/qtr)				
Year	**Q1**	**Q2**	**Q3**	**Q4**
2016	--	296	336	295
2017	311	293	305	143
2018	0	--	-	--
Average	156	295	321	219

NOx:

EF (lb/MMBtu) = {EF (ppmvd @ 15% O_2) x 46 lb-NO_2/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-15)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	**EF**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Gas turbine & duct burner	1.6 ppmvd @ 15% O_2 (equates to 0.0059 lb/MMBtu)	920	1,741	1,894	1,292

SOx:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	**EF**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Gas turbine & duct burner	0.00285 lb/MMBtu	445	841	915	624

PM_{10}:

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine & duct burner	0.0017 lb/MMBtu	265	502	546	372

CO:

EF (lb/MMBtu) = {EF (ppmvd @ 15% O_2) x 28 lb-CO/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-15)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine & duct burner	0.45 ppmvd @ 15% O_2 (equates to 0.0010 lb/MMBtu)	156	295	321	219

VOC:

EF (lb/MMBtu) = {EF (ppmvd @ 15% O_2) x 16 lb-CH_4/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-15)}/{379.5 dscf/lb-mole x 10^6}

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	EF	HAE (lb/qtr)			
		Q1	Q2	Q3	Q4
Gas turbine & duct burner	0.6 ppmvd @ 15% O_2 (equates to 0.0008 lb/MMBtu)	125	236	257	175

Summary:
The following table summarizes quarterly HAE in pounds (Refer to Appendix VI for unit-by-unit HAE summary).

Pollutant	HAE (lb)			
	Q1	Q2	Q3	Q4
NO_x	1,477	2,777	2,927	2,168
SO_x	813	1,616	1,761	1,221
PM_{10}	4,194	8,801	8,754	6,323
CO	521	972	1,054	891
VOC	2,659	5,941	6,420	4,025

E. Actual Emission Reductions (AER)

Ingredion had cancelled all the Permits to Operate for the facility. There is no unit operating at this site at this time. Therefore, all HAEs are AERs.

F. Air Quality Improvement Deduction

The air quality improvement deduction, per Rule 2201, Section 4.12.1, is 10% of the AERs.

Pollutant	Air Quality Improvement Deduction (lb)			
	Q1	Q2	Q3	Q4
NO_x	148	278	293	217
SO_x	81	162	176	122
PM_{10}	419	880	875	632
CO	52	97	105	89
VOC	266	594	642	403

G. Increases in Permitted Emissions

There is no increase in permitted emissions due to this project.

H. Bankable Emission Reductions

The bankable emission reductions are determined by subtracting the Air Quality Improvement Deductions from the AERs for each pollutant.

Pollutant	Bankable Emission Reductions (lb)			
	Q1	Q2	Q3	Q4
NO_x	1,329	2,499	2,634	1,951
SO_x	732	1,454	1,585	1,099
PM_{10}	3,775	7,921	7,879	5,691
*$PM_{2.5}$ in PM_{10}	1,397	2,852	2,836	2,106
CO	469	875	949	802
VOC	2,393	5,347	5,778	3,622

*The amount of $PM_{2.5}$ in PM_{10} is calculated by multiplying $PM_{2.5}/PM_{10}$ fraction estimated for each quarter in Appendix VI of this document.

VI. COMPLIANCE

To comply with the definition of Actual Emissions Reductions (Rule 2201, Section 3.2.1 and Rule 2301, Sections 3.1 and 4.2.1), the reductions must be:

A. Real

The emissions reductions are real since they were generated by shutdown of the emissions units. Furthermore, there are no other facilities within the District that manufacture the same types of corn products that Ingredion Incorporated manufactured. Ingredion Incorporated expects that these types of products will be imported from other states or worldwide. Therefore, load shifting to another source will not occur.

B. Enforceable

The reductions are enforceable since the Permits to Operate (PTO) have been surrendered; further operation would subject the owner to enforcement actions.

C. Quantifiable

The reductions are quantifiable since they were calculated using facility's historic records on processing rate, emission factors (or factors closely represent the operations), and by applying calculations methodologies consistent with Rule 2201.

D. Permanent

The reductions are permanent since the applicant had shutdown the emissions units, and the PTO has been surrendered; further operation would require a permit from the District.

E. Surplus

This section will contain an explanation of what actions were taken to ensure that all emission reductions were surplus of the existing and newly proposed rules and plans. The following rules and plans were analyzed:

Rule 2201 New and Modified Stationary Source Review

N-238-1-5:
CORN RECEIVING AND STORAGE OPERATION CONSISTING OF: RECEIVING PITS, VARIOUS CONVEYING EQUIPMENT, AND THREE HOPPERS ALL VENTED TO A CARTER-DAY MODEL 376-RF8 BAGHOUSE AND THREE STORAGE BINS EACH EQUIPPED WITH A BIN VENT FILTER. THE THIRD STORAGE SILO (#3) IS SERVED BY A DCL, INC. MODEL BV25-58-112A912Z-TO BAGHOUSE. MATERIAL COLLECTED BY THE CARTER-DAY MODEL 376-RF8 BAGHOUSE IS PNEUMATICALLY CONVEYED TO A BALL 58-FR-18 CYCLONAIRE FILTER RECEIVER AND RECYCLED BACK INTO THE CORN RECEIVING SYSTEM.

The following table summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE lb-PM_{10}				HAE lb-PM_{10}			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Corn receiving and transfer	0.002 gr-PM/dscf, 0.93 lb/hr (controlled)	2,009	2,031	2,053	2,053	20	46	50	31
Filter receiver	0.02 gr-PM/dscf, 0.088 lb/hr (controlled)	190	192	194	194	0	1	1	0
Corn loading into silos	0.002 gr-PM/dscf, 0.93 lb/hr (controlled)	2,009	2,031	2,053	2,053	3	7	8	5

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-2-3:
CORN CLEANING OPERATION WITH: THREE DRAG CONVEYORS AND ONE ELEVATOR VENTED TO A BIN FILTER; A SCALPER AND ASPIRATED CORN CLEANER, TWO HOPPERS, AND VARIOUS CONVEYORS ALL VENTED TO A CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM; AND ONE CORN CLEANINGS HOPPER AND ONE CORN CLEANINGS SILO VENTED TO A SECOND CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM

The following table summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE lb-PM_{10}				HAE lb-PM_{10}			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Corn transfer	0.002 gr-PM/dscf, 0.017 lb/hr (controlled)	37	37	38	38	17	37	**40**	25
Corn cleaner and scalper vented to baghouse	0.002 gr-PM/dscf, 0.213 lb/hr (controlled)	460	465	470	470	19	41	45	27
Corn cleaning silo with dust collector	0.002 gr-PM/dscf, 0.014 lb/hr (controlled)	30	31	31	31	3	7	7	5

As seen in the above table, HAE for corn transfer in Q3 is more than the PE during that quarter. Therefore, emission adjustment are necessary. The adjusted HAE values are as follows:

Operations	Permit Limit	PE lb-PM_{10}				HAE lb-PM_{10}			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Corn transfer	0.002 gr-PM/dscf, 0.017 lb/hr (controlled)	37	37	38	38	17	37	**38**	25
Corn cleaner and scalper vented to baghouse	0.002 gr-PM/dscf, 0.213 lb/hr (controlled)	460	465	470	470	19	41	45	27
Corn cleaning silo with dust collector	0.002 gr-PM/dscf, 0.014 lb/hr (controlled)	30	31	31	31	3	7	7	5

N-238-8-3:
GLUTEN MILLING, TRANSFER, AND STORAGE SERVED BY A CARTER-DAY DUST COLLECTOR, TYPE R-F

The following table summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE lb-PM_{10}				HAE lb-PM_{10}			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gluten milling, transfer and storage served by dust collector	0.002 gr-PM/dscf, 0.036 lb/hr (controlled)	78	79	79	79	25	48	54	34

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-9-5:
BULK GLUTEN LOADOUT SYSTEM WITH A LOADOUT SYSTEM SUPPLY CONVEYOR WITH A CLEAN DRAWER MAGNET, A STATIONARY HOOD AND A DSH SYSTEMS LTD FIXED LOADING SPOUT SERVED BY AN ALANCO MODEL 378-RLP-FILTER BAGHOUSE, AND AN ENCLOSED COLLECTION HOPPER WITH A HAPMAN BAG FILLER MATERIAL HANDLING SYSTEM

The following table summarizes and compares PE and HAE:

PE = EF (lb-PM10/ton) x Process Rate (tons/day) x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE lb-PM_{10}				HAE lb-PM_{10}			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gluten meal loadout	0.004 lb-PM_{10}/ton; 150 tons-material/day	54	55	55	55	1	2	2	1
Bagging operation	0.0036 lb-PM_{10}/ton; 500 lb-material/day	0	0	0	0	1	2	2	1

As seen in the above table, HAE for bagging operation is more than the PE during that quarter. Therefore, emission adjustment are necessary. The adjusted HAE values are as follows:

Operations		Permit Limit	PE lb-PM_{10}				HAE lb-PM_{10}		
			Q1	Q2	Q3	Q4	Q1	Q2	Q3
Gluten meal loadout		0.004 lb-PM_{10}/ton; 150 tons-material/day	54	55	55	55	1	2	2
Bagging operation		0.0036 lb-PM_{10}/ton; 500 lb-material/day	0	0	0	0	0	0	0

The adjusted values are equal to the PE; therefore, the reductions are surplus of the permitted limits.

N-238-10-10:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

NOx:

The following table summarizes and compares PE and HAE:

PE = EF (lb/MMBtu) x 21 MMBtu/hr x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Starch dryer	4.3 ppmvd @ 19% O2 (**0.048 lb/MMBtu**) or 4.3 ppmv if >19% O2	2,177	2,201	2,226	2,226	240	432	384	288

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

SOx:

The following table summarizes and compares PE and HAE:

PE = EF (lb/MMBtu) x 21 MMBtu/hr x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Starch dryer	0.00285	129	131	132	132	3	5	5	4

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

PM10:

The following table summarizes and compares PE and HAE:

PE = 0.24 (lb-PM10/ton) x 320 (tons/day) x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Starch dryer	0.1 gr -PM/dscf 0.24 lb-PM_{10}/ton of starch dried* 320 tons/day of starch	6,912	6,989	7,066	7,066	2,056	4,179	3,763	3,033

*EF includes combustion and process emissions

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

CO:

The following table summarizes and compares PE and HAE:

PE = EF (lb/MMBtu) x 21 MMBtu/hr x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Starch dryer	42 ppmvd @ 19% O2 (0.286 lb/MMBtu)	12,973	13,117	13,261	13,261	17	31	27	20

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

VOC:

The following table summarizes and compares PE and HAE:

PE = EF (lb/day) x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Starch dryer	20 lb/day	1,800	1,820	1,840	1,840	28	50	44	33

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits

N-238-13-7:
ONE (1) GERM DRYER SERVED BY A CYCLONE, A DUCON TYPE L MODEL II PARTICULATE SCRUBBER, AND A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER.

The following tables summarizes and compares PE and HAE for each pollutant:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

SOx:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Germ dryer	0.50 lb-SOx/hr	1,080	1,092	1,104	1,104	23	52	55	34

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

PM10:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Germ dryer	0.1 gr-PM/dscf 0.62 lb-PM_{10}/hr 0.023 gr-PM_{10}/dscf (noted in the app review under project N-970007	1,339	1,354	1,369	1,369	492	1,115	1,182	731

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

VOC:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Germ dryer	1.9 lb-VOC/hr	4,104	4,150	4,195	4,195	370	837	887	549

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-14-3:
GERM TRANSFER AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

PM10:
The following tables summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Germ transfer and storage	0.1 gr-PM/dscf 0.002 gr-PM/dscf, 0.043 lb-PM/hr	929	939	949	949	12	26	28	17

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-15-3:
BULK GERM LOADOUT

PM10:

The following tables summarizes and compares PE and HAE:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Bulk germ loadout	None	--	--	--	--	88	199	211	131

As seen in the above table, this permit does not limit the potential emissions. The facility could have emitted more than the quarterly HAEs. Therefore, the reductions are presumed to be surplus.

N-238-16-3:
FILTER-AID RECEIVING AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

PM_{10}:
The following tables summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr
*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Filter-aid receiving and storage	0.01 lb-PM_{10}/hr (controlled) and 0.002 gr/scf	22	22	22	22	0	1	1	1

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-17-5:
PNEUMATIC RECEIVING OF POWDER ACTIVATED CARBON MATERIAL INTO A SILO EQUIPPED WITH A CYCLONAIRE MODEL 58-FR-24 AARG II D FILTER RECEIVER/DUST COLLECTOR SYSTEM

PM_{10}:

PE = 0.0028 (lb-PM10/ton) x 45 (tons/day) x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Receiving of activated carbon	0.0028 lb/ton-carbon 45 tons/day of carbon	11	11	12	12	0	0	0	0

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

NOx:

Per project N-1150974,

PE = 24,565 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine	--	6,141	6,141	6,141	6,142	287	511	574	546

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

SOx:

Per project N-1150974,

PE = 1,095 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine	--	273	274	274	274	117	208	234	222

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

PM10:

Per project N-1150974,

PE = 2,519 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine	--	629	630	630	630	271	482	541	515

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

CO:

Per project N-1150974,

PE = 102,273 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine	--	25,568	25,568	25,568	25,569	328	584	656	624

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

VOC:

Per project N-1150974,

PE = 803 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine	--	200	201	201	201	86	153	172	164

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-19-7:
ONE 12,000 GALLON ABOVE GROUND SALT SLURRY STORAGE TANK

PM10:

PE = 0.003 (lb-PM10/ton) x 60 (tons/month) x 3 month/quarter

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Receiving of ground salt into salt slurry tank	0.003 lb-PM10/ton of salt received 30 tons/day and 60 tons/month of salt	1	1	1	1	0	0	0	0

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-24-7:
FIRST GRIND OVERFLOW TANK SERVED BY A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER AND A BIOTON MODEL 2-2-34 BIOFILTER (THE CONTROL EQUIPMENT ALSO SERVES N-238-33)

Emissions for this unit were included with N-238-33, since these units share a control device. See emissions under permit N-238-33.

N-238-25-5:
GLUTEN DEWATERING FILTER AND VACUUM SYSTEMS WITH A SOX SCRUBBER ON THE EXHAUST STREAM

SOx:

The following tables summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gluten defiltering filter and vacuum systems	0.146 lb-SOx/hr when exhaust gases pass through scrubber	315	319	322	322	125	283	309	190

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

VOC:
The following tables summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gluten defiltering filter and vacuum systems	2.083 lb-VOC/hr	4,499	4,549	4,599	4,599	1,787	4,037	4,410	2,710

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-29-4:
SULFUROUS ACID PLANT CONSISTING OF: AN ELEMENTAL SULFUR BURNER AND TWO ABSORBERS VENTED TO A LUNDBERG SCRUBBER WITH A MIST ELIMINATOR; TWELVE STEEP TANKS (69,000 GAL. EACH) AND ONE DRAW TANK VENTED TO THE LINDBERG SCRUBBER SERVING THE ACID PLANT

SOx:

The following tables summarizes and compares PE and HAE:

PE = 0.7 (lb-SOx/ton of S) x 6,000 lb-S/day x ton-S/2,000 lb-S x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sulfurous acid plant	0.7 lb-SOx/ton of elemental sulfur burned* 6,000 lb-elemental sulfur/day* 2,000 ppmvd averaged over 15-consecutive minutes	189	191	193	193	31	65	71	43

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-33-5:
GLUTEN PROCESSING OPERATION CONSISTING OF GLUTEN DRYER (DAVENPORT MODEL RSTD), A GLUTEN CONDITIONER, AND ASSOCIATED CONVEYING SYSTEM. THE GLUTEN CONDITIONER IS VENTED TO THE GLUTEN DRYER WHICH IS SERVED BY A CYCLONE FOLLOWED BY A PARTICULATE MATTER SCRUBBER, A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER, AND A BIOTON MODEL 2-2-34 BIOFILTER (THE SOX & VOC CONTROLS ARE SHARED WITH PERMIT N-238-24)

SOx:

The following tables summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gluten processing operation and first grind overflow (N-238-24 & '-33)	1.25 lb-SOx/hr (combined limit for permits N-238-24 & '-33)	2,700	2,730	2,760	2,760	63	143	157	96

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

VOC:

The following tables summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gluten processing operation and first grind overflow (N-238-24 & '-33)	0.33 lb-VOC/hr (combined limit for permits N-238-24 & '-33)	713	721	729	729	223	504	550	338

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

PM_{10}:

The following table summarizes and compares PE and HAE:

PE = EF (lb/hr) x 24 hr/day x *Number of days in a quarter days/qtr

*Q1 = 90 days; Q2 = 91 days; Q3 = 92 days; and Q4 = 92 days

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gluten processing operation	0.1 gr-PM/dscf, 1.04 lb/hr (controlled)	2,246	2,271	2,296	2,296	892	2,016	2,202	1,353

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-41-4:
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

NOx:

Per project N-1160542,

PE = 12,474 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Auxiliary boiler	--	3,118	3,118	3,119	3,119	30	93	75	42

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

SOx:

Per project N-1160542,

PE = 4,522 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Auxiliary boiler	--	1,130	1,130	1,131	1,131	6	19	15	8

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

PM10:

Per project N-1160542,

PE = 11,851 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Auxiliary boiler	--	2,962	2,963	2,963	2,963	30	93	75	42

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

CO:

Per project N-1160542,

PE = 57,693 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Auxiliary boiler	--	14,423	14,423	14,423	14,424	20	62	50	28

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

VOC:

Per project N-1160542,

PE = 6,237 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Auxiliary boiler	--	1,559	1,559	1,559	1,560	40	124	100	56

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

NOx:

Per project N-1160542,

PE = 2,018 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Boiler	--	504	504	505	505	0	0	0	0

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

SOx:

Per project N-1160542,

PE = 732 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Boiler	--	183	183	183	183	0	0	0	0

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

PM10:

Per project N-1160542,

PE = 1,917 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Boiler	--	479	479	479	450	0	0	0	0

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

CO:

Per project N-1160542,

PE = 9,335 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Boiler	--	2,333	2,334	2,334	2,334	0	0	0	0

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

VOC:

Per project N-1160542,

PE = 1,009 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Boiler	--	252	252	252	253	0	0	0	0

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

NOx:

Per project N-1172961,

PE = 20,457 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine & duct burner	--	5,114	5,114	5,114	5,115	920	1,741	1,894	1,292

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

SOx:

Per project N-1172961,

PE = 5,767 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine & duct burner	--	1,441	1,442	1,442	1,442	445	841	915	624

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

PM10:

Per project N-1172961,

PE = 20,236 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine & duct burner	--	5,059	5,059	5,059	5,059	265	502	546	372

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

CO:

Per project N-1172961,

PE = 59,608 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine & duct burner	--	14,902	14,902	14,902	14,902	156	295	321	219

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

VOC:

Per project N-1172961,

PE = 7,074 lb/yr

The annual emissions are equally divided among the quarters to get the quarterly amount. These quarterly emissions are compared with the HAE in the following table:

Operations	Permit Limit	PE (lb)				HAE (lb)			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gas turbine & duct burner	--	1,768	1,768	1,769	1,769	125	236	257	175

As seen in the above table, HAE for each quarter is below the PE during that quarter. Therefore, no emission adjustment is needed, and reductions are surplus of the permitted limits.

Rule 4001 New Source Performance Standards

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

This subpart is reviewed to determine regulatory limits for the following units:

N-238-41-4:
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

§60.42b Standard for sulfur dioxide (SO_2)
Section 60.42b(k)(1)(2) states that the units firing only very low sulfur oil, gaseous fuel, a mixture of these fuels with any other fuels with a potential SO_2 emission rate of 0.32 lb/MMBtu heat input or less are exempt from the SO_2 emissions in paragraph (k)(1) of this section.

This boiler was fired on natural containing a maximum of 1.0 gr-S/100 scf, which equates to 0.00285 lb/MMBtu. Therefore, this unit was exempt from the SO_2 emissions in paragraph (k)(1) of this section.

Note that section (k)(14) requires not to exceed 0.2 lb-SO_2/MMBtu.

Since the HAEs were calculated using SO2 rate below the 0.2 or 0.32 lb/MMBtu, the reductions are surplus of these limits.

§60.43b Standard for particulate matter (PM)
The section does not contain PM standard for natural gas fired boilers. Therefore, no further discussion is required.

§60.44b Standard for nitrogen oxides (NOx)
- 0.1lb/MMBtu for low heat release rate (≤ 70,000 Btu/hr-ft^3 of furnace volume); or
- 0.2 lb/MMBtu for high release rate (> 70,000 Btu/hr-ft^3 of furnace volume).

Since the HAEs were calculated using NOx emission rate below the 0.1 lb/MMBtu, the reductions are surplus of this limit.

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

This subpart is reviewed to determine regulatory limits for the following units:

N-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

§60.42c Standard for sulfur dioxide (SO_2)
The section does not contain SO2 standard for natural gas fired boilers. Therefore, no further discussion is required.

§60.43c Standard for particulate matter (PM)
The section does not contain PM standard for natural gas fired boilers. Therefore, no further discussion is required.

40 CFR Part 60 Subpart GG – Standards of Performance for Stationary Gas Turbines

This subpart is reviewed to determine regulatory limits for the following unit:

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

§60.332 Standard for nitrogen oxides
§60.332(c) requires the stationary gas turbine with heat input range of greater than 10 MMBtu/hr but less than or equal to 100 MMBtu/hr shall comply with the NOx emission limit calculated using the following equation:

$STD = 0.0150\frac{(14.4)}{Y} + F$; where

STD = allowable ISO corrected NOx emission concentration in % by volume @ 15% O_2 on dry basis

Y = Manufacturer's rated heat rate at manufacturer's rated load (kJ/w-hr) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The Y shall not exceed 14.4 kJ/w-hr.

F = NO_x emission allowance for fuel-bound nitrogen.

For this turbine,

$$Y = \left(43.403 \times 10^6 \frac{\text{Btu}}{\text{hr}}\right)\left(\frac{1\text{ kJ}}{0.9478\text{ Btu}}\right)\left(\frac{1}{2.8\times10^6\text{ W}}\right) = 16.35\frac{\text{kJ}}{\text{W}-\text{hr}}$$

Since calculated value of Y exceeds 14.4 kJ/w-hr, the value will be set equal to 14.4 kJ/W-hr.

F= 0; for conservative calculations

$$STD = 0.0150\frac{(14.4)}{14.4} + 0 = 0.0150\ \%\ \text{by volume @ 15\% O2}$$

This number is equivalent to 150 ppmvd @ 15% O_2.

Since the actual NOx emissions were below the 150 ppmvd @ 15% O_2 limit, HAEs are surplus of this limit.

§60.333 Standard for SOx:
§60.333(a) requires that the emissions of sulfur dioxide shall not exceed 0.015 percent by volume dry @ 15% O_2 (150 ppmvd @ 15% O_2).

The 150 ppmvd @ 15% O_2 limit specified in §60.333(a) is equivalent to 0.764 lb-SO_2/MMBtu as follows:

$$\frac{(150\,\text{ppmvd}) \times \left(8{,}578 \frac{\text{ft}^3}{\text{MMBtu}}\right) \times \left(64 \frac{\text{lb} - \text{SO}_2}{\text{lb} - \text{mol}}\right) \times \left(\frac{20.95}{20.95 - 15}\right)}{\left(379.5 \frac{\text{ft}^3}{\text{lb} - \text{mol}}\right) \times \left(10^6\right)} = 0.764 \frac{\text{lb} - \text{SO}_2}{\text{MMBtu}}$$

§60.333(b) requires that no fuel shall be burned which contains sulfur in excess of 0.8 percent by weight.

The percent sulfur by weight of natural gas of 1.0 gr-S/100 scf natural gas is 0.0337 percent by weight. This can be determined as follows (assuming a 100 scf sample comprised of methane at 60 °F):

$$\left(\frac{1.0\,\text{gr} - \text{S}}{100\,\text{ft}^3 - \text{NG}}\right) \times \left(\frac{\text{lb} - \text{S}}{7000\,\text{gr} - \text{S}}\right) \times \left(\frac{\text{ft}^3 - \text{NG}}{0.0424\,\text{lb} - \text{NG}}\right) = 3.37 \times 10^{-4} \frac{\text{lb} - \text{S}}{\text{lb} - \text{NG}}$$

The historical actual emissions are determined using an emission factor 0.00285 lb-SOx/MMBtu. This EF is below 0.764 lb/MMBtu limit. Furthermore, 1.0 gr-S/100 scf equates to 0.0337% by wt. of sulfur, which is below the 0.8% by wt. of sulfur allowed under this section. Therefore, SOx reductions are surplus of these standards.

40 CFR Part 60 Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

This subpart is reviewed to determine regulatory limits for the following unit:

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC

REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

§60.4320 - Emission Limits for NOx

Per Table 1 of this subpart, new turbine firing on natural gas with a heat input at peak load between 50 MMBtu/hr and 850 MMBtu/hr, shall meet NO_x emissions limit of 25 ppmvd @ 15% O_2 or 150 ng/J of useful output (1.2 lb/MWh).

Since the actual NOx emissions were estimated using an emission factor which is below the 25 ppmvd @ 15% O_2 limit, HAEs are surplus of this limit.

§60.4330 - Emission Limits for SOx

§60.4330 (a)(2) limits sulfur emission to 26 ng SO2/J (0.060 lb SO2/MMBtu) heat input.

Since the actual SOx emissions were estimated using an emission factor which is below the 0.060 lb-SO2/MMBtu limit, HAEs are surplus of this limit.

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. This facility was not a Major Source[1] of HAP emissions. Therefore, the requirements of Subpart DDDDD were not applicable to the boilers under permits N-238-41 and '-42.

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 units under permits N-238-41 and '-42 met the definition of a "gas-fired boiler" as they were required to use natural gas fuel or LPG. Therefore, Subpart JJJJJJ requirements were not applicable.

[1] Refer to project N-1160542 for HAP calculations.

40 CFR Part 63 Subpart YYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

This subpart applies to a stationary combustion turbine located at a major source of HAP emissions. As noted above, the facility was not a Major HAP source; therefore, this subpart does not apply to permit unit N-238-18 and '-46.

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-238-1-5:
CORN RECEIVING AND STORAGE OPERATION CONSISTING OF: RECEIVING PITS, VARIOUS CONVEYING EQUIPMENT, AND THREE HOPPERS ALL VENTED TO A CARTER-DAY MODEL 376-RF8 BAGHOUSE AND THREE STORAGE BINS EACH EQUIPPED WITH A BIN VENT FILTER. THE THIRD STORAGE SILO (#3) IS SERVED BY A DCL, INC. MODEL BV25-58-112A912Z-TO BAGHOUSE. MATERIAL COLLECTED BY THE CARTER-DAY MODEL 376-RF8 BAGHOUSE IS PNEUMATICALLY CONVEYED TO A BALL 58-FR-18 CYCLONAIRE FILTER RECEIVER AND RECYCLED BACK INTO THE CORN RECEIVING SYSTEM.

During permitting, permitted hourly emissions were used to estimate grain loading factor for each process operation. Since the reductions are surplus of the hourly emission limit, they are presumed to be surplus of the 0.1 gr/dscf limit in the rule.

N-238-2-3:
CORN CLEANING OPERATION WITH: THREE DRAG CONVEYORS AND ONE ELEVATOR VENTED TO A BIN FILTER; A SCALPER AND ASPIRATED CORN CLEANER, TWO HOPPERS, AND VARIOUS CONVEYORS ALL VENTED TO A CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM; AND ONE CORN CLEANINGS HOPPER AND ONE CORN CLEANINGS SILO VENTED TO A SECOND CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM

During permitting, permitted hourly emissions were used to estimate grain loading factor for each process operation. Since the reductions are surplus of the hourly emission limit, they are presumed to be surplus of the 0.1 gr/dscf limit in the rule.

N-238-8-3:
GLUTEN MILLING, TRANSFER, AND STORAGE SERVED BY A CARTER-DAY DUST COLLECTOR, TYPE R-F

During permitting, permitted hourly emissions were used to estimate grain loading factor for each process operation. Since the reductions are surplus of the hourly emission limit, they are presumed to be surplus of the 0.1 gr/dscf limit in the rule.

N-238-9-5:
BULK GLUTEN LOADOUT SYSTEM WITH A LOADOUT SYSTEM SUPPLY CONVEYOR WITH A CLEAN DRAWER MAGNET, A STATIONARY HOOD AND A DSH SYSTEMS LTD FIXED LOADING SPOUT SERVED BY AN ALANCO MODEL 378-RLP-FILTER BAGHOUSE, AND AN ENCLOSED COLLECTION HOPPER WITH A HAPMAN BAG FILLER MATERIAL HANDLING SYSTEM

Per permit application under project N-1001245, airflow rate for a baghouse equivalent to Alanco baghouse was 47,138 cfm. It is presumed that air release through the dust collector at dry standard conditions.

Using the permitted emission limits and process rates, the hourly emission rates are estimated as follows:

= 0.004 lb-PM_{10}/ton of material x 150 tons/day x day/24 hr
= 0.025 lb-PM10/hr

The permitted hourly rate is converted to grain loading factor as follows:

= 0.025 lb-PM_{10}/hr x hr/60 min x min/47,138 dscf x 7,000 gr/lb x lb-PM/lb-PM_{10}
= 0.0 gr-PM/dscf

At the permitted emission rate, the grain loading factor is below the 0.1 gr/dscf. Further, the actual reductions are surplus of the permitted emission rates. Therefore, it is concluded that the reductions are surplus of the rule limit.

N-238-10-10:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

Per project N-1084283, PM emissions are estimated to be 0.017 gr/dscf at the permitted levels. This PM emission rate is below the grain loading factor of 0.1 gr/dscf. Further, the actual reductions are surplus of the permitted

emission rates. Therefore, it is concluded that the reductions are surplus of the rule limit.

N-238-13-7:
ONE (1) GERM DRYER SERVED BY A CYCLONE, A DUCON TYPE L MODEL II PARTICULATE SCRUBBER, AND A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER.

The actual emissions are estimated using grain concentration of 0.023 gr/dscf. Since the actual reductions are estimated at a grain concentration below the rule limit of 0.1 gr/dscf, all PM reductions are surplus of the rule limit.

N-238-14-3:
GERM TRANSFER AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

This permit was originally written in the San Joaquin County back in 1980. Documents filed in 1979 and 1980 does not have information on Carter day baghouse type R-F serving germ transfer and storage operation. The exhaust of carter day baghouse is unknown. However, web search (https://www.deq.state.or.us/AQPermitsonline/15-0073-TV-01_RR_2017.PDF) reveals a Carter Day 24RF10 model baghouse rated at 6,000 acfm. The permitted hourly rate is converted to grain loading factor as follows:

= 0.043 lb-PM_{10}/hr x hr/60 min x min/6,000 dscf x 7,000 gr/lb x lb-PM/lb-PM_{10}
= 0.0 gr-PM/dscf

At the permitted emission rate, the grain loading factor is below the 0.1 gr/dscf. Further, the actual reductions are surplus of the permitted emission rates. Therefore, it is concluded that the reductions are surplus of the rule limit.

N-238-15-3:
BULK GERM LOADOUT
The loadout operation does not appear to be serviced by a dust collector. Therefore, this operation was not subject to the requirements of this rule.

N-238-16-3:
FILTER-AID RECEIVING AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

This permit limits PM emission rate at the baghouse outlet to 0.002 gr/scf and 0.01 lb/hr. Hourly emissions were used to estimate grain loading factor for the operation. Since the reductions are surplus of the hourly emission limit, they are presumed to be surplus of the 0.1 gr/dscf limit in the rule.

N-238-17-5:
PNEUMATIC RECEIVING OF POWDER ACTIVATED CARBON MATERIAL INTO A SILO EQUIPPED WITH A CYCLONAIRE MODEL 58-FR-24 AARG II D FILTER RECEIVER/DUST COLLECTOR SYSTEM

Per application review under project N-1172970, estimated grain loading factor is 0.0007 gr/scf. This grain loading factor was calculated using the permitted PM emission rate (0.1 lb/day). Since the grain loading factor is below the 0.1 gr/dscf and the actual reductions are surplus of the permitted emission rates, it is concluded that the reductions are surplus of the rule limit.

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

This turbine was fueled on natural gas. The grain loading factor is 0.02 gr/dscf[2] for natural gas fuel. This factor is derived using an emission factor of 0.0066 lb-PM/MMBtu, which is used to estimate the actual emissions. Therefore, PM emissions reductions are surplus of the rule limit.

N-238-19-7:
ONE 12,000 GALLON ABOVE GROUND SALT SLURRY STORAGE TANK

PM emission reductions are zero for this unit. Therefore, no further discussion is required.

N-238-24-7:
FIRST GRIND OVERFLOW TANK SERVED BY A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER AND A BIOTON MODEL 2-2-34 BIOFILTER (THE CONTROL EQUIPMENT ALSO SERVES N-238-33)

Refer to permit N-238-33. Note that permit unit N-238-24 and '-33 share same emission control equipment.

N-238-25-5:
GLUTEN DEWATERING FILTER AND VACUUM SYSTEMS WITH A SOX SCRUBBER ON THE EXHAUST STREAM

This process did not generate any PM emissions. Thus, no further discussion is required.

[2] 0.0066 lb/MMBtu x 7,000 gr/lb x MMBtu/8,578 ft^3 x 20.95/(20.95-15)

N-238-29-4:
SULFUROUS ACID PLANT CONSISTING OF: AN ELEMENTAL SULFUR BURNER AND TWO ABSORBERS VENTED TO A LUNDBERG SCRUBBER WITH A MIST ELIMINATOR; TWELVE STEEP TANKS (69,000 GAL. EACH) AND ONE DRAW TANK VENTED TO THE LINDBERG SCRUBBER SERVING THE ACID PLANT

This process did not generate any PM emissions. Thus, no further discussion is required.

N-238-33-5:
GLUTEN PROCESSING OPERATION CONSISTING OF GLUTEN DRYER (DAVENPORT MODEL RSTD), A GLUTEN CONDITIONER, AND ASSOCIATED CONVEYING SYSTEM. THE GLUTEN CONDITIONER IS VENTED TO THE GLUTEN DRYER WHICH IS SERVED BY A CYCLONE FOLLOWED BY A PARTICULATE MATTER SCRUBBER, A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER, AND A BIOTON MODEL 2-2-34 BIOFILTER (THE SOX & VOC CONTROLS ARE SHARED WITH PERMIT N-238-24)

Per application review under project N-1123028, gluten dryer cyclone exhaust air flow rate is 6,500 cfm.

The permitted hourly rate of 1.04 lb/hr is converted to grain loading factor as follows:

= 1.43 lb-PM_{10}/hr x hr/60 min x min/6,500 dscf x 7,000 gr/lb x lb-PM/lb-PM_{10}
= 0.018 gr-PM/dscf

At the permitted emission rate, the grain loading factor is below the 0.1 gr/dscf. Further, the actual reductions are surplus of the permitted emission rates. Therefore, it is concluded that the reductions are surplus of the rule limit.

N-238-41-4:
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

This boiler was fueled on PUC quality natural gas. The grain loading factor is 0.00286 gr/dscf[3] for natural gas fuel. This factor is derived using an emission factor of 0.003 lb-PM/MMBtu, which is used to estimate the actual emissions. Therefore, PM emissions reductions are surplus of the rule limit.

[3] 0.003 lb/MMBtu x 7,000 gr/lb x MMBtu/8,578 ft^3 x 20.95/(20.95-3)

N-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

This boiler was fueled on PUC quality natural gas. The grain loading factor is 0.00286 gr/dscf[4] for natural gas fuel. This factor is derived using an emission factor of 0.003 lb-PM/MMBtu, which is used to estimate the actual emissions. Therefore, PM emissions reductions are surplus of the rule limit.

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

This turbine was fueled on natural gas. The grain loading factor is 0.005 gr/dscf[5] for natural gas fuel. This factor is derived using an emission factor of 0.0017 lb-PM/MMBtu, which is used to estimate the actual emissions. Therefore, PM emissions reductions are surplus of the rule limit

Rule 4202 Particulate Matter-Emission Rate

Section 4.0 of this rule, a person shall not discharge into the atmosphere PM emissions in excess of the maximum allowable limit (E_{Max}), in lb/hr, determined by the following specified in this Rule:

$E_{Max} = 3.59\ P^{0.62}$, Process weight (P) ≤ 30 tons/hr
$E_{Max} = 17.31\ P^{0.16}$, P > 30 tons/hr

N-238-1-5:
CORN RECEIVING AND STORAGE OPERATION CONSISTING OF: RECEIVING PITS, VARIOUS CONVEYING EQUIPMENT, AND THREE HOPPERS ALL VENTED TO A CARTER-DAY MODEL 376-RF8 BAGHOUSE AND THREE STORAGE BINS EACH EQUIPPED WITH A BIN VENT FILTER. THE THIRD STORAGE SILO (#3) IS SERVED BY A DCL, INC. MODEL BV25-58-112A912Z-TO BAGHOUSE. MATERIAL COLLECTED BY THE CARTER-DAY MODEL 376-RF8 BAGHOUSE IS PNEUMATICALLY CONVEYED TO A

[4] 0.003 lb/MMBtu x 7,000 gr/lb x MMBtu/8,578 ft^3 x 20.95/(20.95-3)
[5] 0.0036 lb/MMBtu x 7,000 gr/lb x MMBtu/8,578 ft^3 x 20.95/(20.95-15)

BALL 58-FR-18 CYCLONAIRE FILTER RECEIVER AND RECYCLED BACK INTO THE CORN RECEIVING SYSTEM.

Corn receiving and transfer:
Corn loading into silos:

The maximum emissions occur in the Q3 during which an average of 119,452 tons of material was received during the baseline period. The average process rate was 1,118 tons per hour[6]. This means, the equipment has been operated for 107 hours during that quarter (119,452/1,118).

$E_{Allowable} = (17.31)(1,118)^{0.16}(107\ hr/qtr)(1\ lb\text{-}PM_{10}/lb\text{-}PM)$
$= 5,694\ lb\text{-}PM_{10}/qtr$

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

N-238-2-3:
CORN CLEANING OPERATION WITH: THREE DRAG CONVEYORS AND ONE ELEVATOR VENTED TO A BIN FILTER; A SCALPER AND ASPIRATED CORN CLEANER, TWO HOPPERS, AND VARIOUS CONVEYORS ALL VENTED TO A CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM; AND ONE CORN CLEANINGS HOPPER AND ONE CORN CLEANINGS SILO VENTED TO A SECOND CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM

Corn transfer
Corn cleaner and scalper
Corn cleaner silo

The maximum emissions occur in the Q3 during which an average of 118,200 tons of material was received during the baseline period. The average process rate was 181.6 tons per hour[7]. This means, the equipment has been operated for 651 hours during that quarter.

$E_{Allowable} = (17.31)(181.6)^{0.16}(651\ hr/qtr)(1\ lb\text{-}PM_{10}/lb\text{-}PM)$
$= 25,902\ lb\text{-}PM_{10}/qtr$

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

[6]Per application under project N-1112322, corn receiving rate was 40,000 bushels of corn per hour, which equates to about 1,118 short-tons per hour (40,000 x 1/39.368 x 2,200/2,000)

[7]Per application under project N-1112322, corn scalper process rate is about 6,500 bushels of corn per hour, which equates to about 181.6 short-tons per hour (6,500 x 1/39.368 x 2200/2000)

N-238-8-3:
GLUTEN MILLING, TRANSFER, AND STORAGE SERVED BY A CARTER-DAY DUST COLLECTOR, TYPE R-F

The maximum emissions occur in the Q3 during which an average of 4,314 tons of material was processed during the baseline period. The average process rate is estimated to be 6 tons per hour[8]. This means, the equipment has been operated for 719 hours during that quarter (4,314/6).

$E_{Allowable} = (3.59)(6)^{0.62}(719\ hr/qtr)(1\ lb\text{-}PM_{10}/lb\text{-}PM)$
$= 7{,}839\ lb\text{-}PM_{10}/qtr$

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

N-238-9-5:
BULK GLUTEN LOADOUT SYSTEM WITH A LOADOUT SYSTEM SUPPLY CONVEYOR WITH A CLEAN DRAWER MAGNET, A STATIONARY HOOD AND A DSH SYSTEMS LTD FIXED LOADING SPOUT SERVED BY AN ALANCO MODEL 378-RLP-FILTER BAGHOUSE, AND AN ENCLOSED COLLECTION HOPPER WITH A HAPMAN BAG FILLER MATERIAL HANDLING SYSTEM

The maximum emissions occur in the Q3 during which an average of 4,311 tons of material was processed during the baseline period. The average process rate is estimated to be 25 tons per hour[9]. This means, the equipment has been operated for 172 hours during that quarter (4,311/25).

$E_{Allowable} = (3.59)(25)^{0.62}(155\ hr/qtr)(1\ lb\text{-}PM_{10}/lb\text{-}PM)$
$= 4{,}543\ lb\text{-}PM_{10}/qtr$

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

N-238-10-10:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

Natural gas combustion:
Section 3.0 of the rule defines process weight as the total weight of all materials introduced into any specific process, which process may cause any

[8]This permit was written some in 1980s. There is no subsequent modification to the permit that has process rate information. The process rate is calculated as follows: (3,884 tons/118,200 tons) x 181.6 tons/hr.
[9] A typical truck load is 25 tons, and takes about an hour to load/unload a 25 tons from a truck. Therefore, process rate is assumed to be 25 tons/hr.

discharge into the atmosphere. Solid fuels charged shall be considered as part of the process weight, but liquid and gaseous fuels and combustion air shall not.

The unit used natural gas fuel and combustion air during the baseline period. These elements are not part of the process weight. Therefore, maximum allowable particulate emissions cannot be quantified.

Starch production:
The maximum emissions occur in the Q2 of the baseline period during which an average production was 17,412 tons. The process rate is estimated to be 9.5 tons per hour[10]. This means, the equipment has been operated for 1,833 hours during that quarter (17,412/9.5).

$E_{Allowable} = (3.59)(9.5)^{0.62}(1{,}833\ hr/qtr)(1\ lb\text{-}PM_{10}/lb\text{-}PM)$
$= 26{,}573\ lb\text{-}PM_{10}/qtr$

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

N-238-13-7:
ONE (1) GERM DRYER SERVED BY A CYCLONE, A DUCON TYPE L MODEL II PARTICULATE SCRUBBER, AND A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER.

The maximum emissions occur in the Q3 during which an average of 7,291 tons of material was processed during the baseline period. The average process rate is estimated to be 11.2 tons per hour[11]. This means, the equipment has been operated for 651 hours during that quarter.

$E_{Allowable} = (3.59)(11.2)^{0.62}(651\ hr/qtr)(1\ lb\text{-}PM_{10}/lb\text{-}PM)$
$= 10{,}452\ lb\text{-}PM_{10}/qtr$

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

N-238-14-3:
GERM TRANSFER AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

[10](7,090 tons/month x month/31 days x day/24 hr) = 9.5 tons/hr

[11](7,291 tons/118,200 tons) x 181.6 tons/hr = 11.2 tons/hr

The process rate is assumed to be same as the germ dryer. Thus,

$E_{Allowable}$ = (3.59)(11.2)$^{0.62}$(651 hr/qtr)(1 lb-PM_{10}/lb-PM)
= 10,452 lb-PM_{10}/qtr

N-238-15-3:
BULK GERM LOADOUT

The maximum emissions occur in the Q3 during which an average of 7,284 tons of material was processed during the baseline period. The average process rate is estimated to be 25 tons per hour[12]. This means, the equipment has been operated for 291 hours during that quarter.

$E_{Allowable}$ = (3.59)(25)$^{0.62}$(291 hr/qtr)(1 lb-PM_{10}/lb-PM)
= 7,686 lb-PM_{10}/qtr

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

N-238-16-3:
FILTER-AID RECEIVING AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

The maximum emissions occur in the Q3 during which an average of 349 tons of material was processed during the baseline period. The average process rate is estimated to be 25 tons per hour[13]. This means, the equipment has been operated for 14 hours during that quarter.

$E_{Allowable}$ = (3.59)(25)$^{0.62}$(14 hr/qtr)(1 lb-PM_{10}/lb-PM)
= 370 lb-PM_{10}/qtr

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

N-238-17-5:
PNEUMATIC RECEIVING OF POWDER ACTIVATED CARBON MATERIAL INTO A SILO EQUIPPED WITH A CYCLONAIRE MODEL 58-FR-24 AARG II D FILTER RECEIVER/DUST COLLECTOR SYSTEM

HAE is zero for each quarter. Therefore, no further discussion is required.

[12] A typical truck load is 25 tons, and takes about an hour to load/unload a 25 tons from a truck. Therefore, process rate is assumed to be 25 tons/hr.

[13] A typical truck load is 25 tons, and takes about an hour to load/unload a 25 tons from a truck. Therefore, process rate is assumed to be 25 tons/hr.

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

Section 3.0 of the rule defines process weight as the total weight of all materials introduced into any specific process, which process may cause any discharge into the atmosphere. Solid fuels charged shall be considered as part of the process weight, but liquid and gaseous fuels and combustion air shall not.

The unit was using natural gas fuel and combustion air during the baseline period. These elements are not part of the process weight. Therefore, maximum allowable particulate emissions cannot be quantified.

N-238-19-7:
ONE 12,000 GALLON ABOVE GROUND SALT SLURRY STORAGE TANK

HAE is zero for each quarter. Therefore, no further discussion is required.

N-238-24-7:
FIRST GRIND OVERFLOW TANK SERVED BY A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER AND A BIOTON MODEL 2-2-34 BIOFILTER (THE CONTROL EQUIPMENT ALSO SERVES N-238-33)

Refer to permit N-238-33. Note that permit unit N-238-24 and ‘-33 share same emission control equipment.

N-238-25-5:
GLUTEN DEWATERING FILTER AND VACUUM SYSTEMS WITH A SOX SCRUBBER ON THE EXHAUST STREAM

This process did not generate any PM emissions. Thus, no further discussion is required.

N-238-29-4:
SULFUROUS ACID PLANT CONSISTING OF: AN ELEMENTAL SULFUR BURNER AND TWO ABSORBERS VENTED TO A LUNDBERG SCRUBBER WITH A MIST ELIMINATOR; TWELVE STEEP TANKS (69,000 GAL. EACH) AND ONE DRAW TANK VENTED TO THE LINDBERG SCRUBBER SERVING THE ACID PLANT

This process did not generate any PM emissions. Thus, no further discussion is required.

N-238-33-5:
GLUTEN PROCESSING OPERATION CONSISTING OF GLUTEN DRYER (DAVENPORT MODEL RSTD), A GLUTEN CONDITIONER, AND ASSOCIATED CONVEYING SYSTEM. THE GLUTEN CONDITIONER IS VENTED TO THE GLUTEN DRYER WHICH IS SERVED BY A CYCLONE FOLLOWED BY A PARTICULATE MATTER SCRUBBER, A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER, AND A BIOTON MODEL 2-2-34 BIOFILTER (THE SOX & VOC CONTROLS ARE SHARED WITH PERMIT N-238-24)

The maximum emissions occur in the Q3 during which an average of 4,339 tons of material was processed during the baseline period. The average process rate is estimated to be 2.05 tons/hr[14]. This means, the equipment has been operated for 2,117 hours during that quarter.

$E_{Allowable} = (3.59)(2.05)^{0.62}(2{,}117 \text{ hr/qtr})(1 \text{ lb-PM}_{10}/\text{lb-PM})$
$= 11{,}860 \text{ lb-PM}_{10}/\text{qtr}$

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of this rule standard.

N-238-41-4:
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

Section 3.0 of the rule defines process weight as the total weight of all materials introduced into any specific process, which process may cause any discharge into the atmosphere. Solid fuels charged shall be considered as part of the process weight, but liquid and gaseous fuels and combustion air shall not.

The unit was using natural gas fuel and combustion air during the baseline period. These elements are not part of the process weight. Therefore, maximum allowable particulate emissions cannot be quantified.

N-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

Section 3.0 of the rule defines process weight as the total weight of all materials introduced into any specific process, which process may cause any discharge into the atmosphere. Solid fuels charged shall be considered as

[14] As estimated in HAE section

part of the process weight, but liquid and gaseous fuels and combustion air shall not.

The unit was using natural gas fuel and combustion air during the baseline period. These elements are not part of the process weight. Therefore, maximum allowable particulate emissions cannot be quantified.

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

Section 3.0 of the rule defines process weight as the total weight of all materials introduced into any specific process, which process may cause any discharge into the atmosphere. Solid fuels charged shall be considered as part of the process weight, but liquid and gaseous fuels and combustion air shall not.

The unit was using natural gas fuel and combustion air during the baseline period. These elements are not part of the process weight. Therefore, maximum allowable particulate emissions cannot be quantified.

Rule 4301 Fuel Burning Equipment

The requirements of section 5.0 are as follows:

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

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM
This unit was operated on natural gas fuel during the baseline period. Per information under project N-1110085, the permitted emissions from this unit were:

NOx:

PE (startup/shutdown) = 0.128 lb-NOx/MMBtu x 43.403 MMBtu/hr
= 5.6 lb-NOx/hr

PE (steady state) = 0.033 lb-NOx/MMBtu x 43.403 MMBtu/hr
= 1.4 lb-NOx/hr

Over 90-day operation,

5.6 lb-NOx/hr x 8 hr/day x 90 days/qtr + 1.4 lb-NOx/hr x 16 hr/day x 90 days/qtr = 6,048 lb-NOx/qtr

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of the standards in this rule.

SOx:

PE = 0.00285 lb-SOx/MMBtu x 43.403 MMBtu/hr
= 0.123 lb-SOx/hr (266 lb/qtr using 2,160 hr/qtr operation)

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of the standards in this rule.

PM:

$$\text{PM}\left(\frac{\text{gr}}{\text{dscf}}\right)=\frac{\left(0.0066\ \frac{\text{lb-PM}}{\text{MMBtu}}\right)\left(43.403\ \frac{\text{MMBtu}}{\text{hr}}\right)\left(7{,}000\frac{\text{gr-PM}}{\text{lb-PM}}\right)}{\left(1{,}024.2\frac{\text{ft}^3}{\text{min}}\right)\left(\frac{100\%}{12\%}\right)\left(60\ \frac{\text{min}}{\text{hr}}\right)}=0.004\ \frac{\text{gr-PM}}{\text{dscf}}$$

Since the permitted grain loading factor is below the rule limit, and the HAEs are surplus of the permitted limit, it is concluded that the reductions are surplus of the standard in this rule.

N-238-41-4:
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

This unit was operated on natural gas fuel during the baseline period. The permitted emissions from this unit were:

NOx:

PE = 0.008 lb-NOx/MMBtu x 185 MMBtu/hr
= 1.5 lb-NOx/hr (3,240 lb-NOx/qtr using 2,160 hr/qtr operation)

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of the standards in this rule.

SOx:

PE = 0.00285 lb-SOx/MMBtu x 185 MMBtu/hr
= 0.5 lb-SOx/hr (1,080 lb/qtr using 2,160 hr/qtr operation)

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of the standards in this rule.

PM:

$$\text{PM}\left(\frac{\text{gr}}{\text{dscf}}\right)=\frac{\left(0.003\ \frac{\text{lb-PM}}{\text{MMBtu}}\right)\left(185\ \frac{\text{MMBtu}}{\text{hr}}\right)\left(7{,}000\frac{\text{gr-PM}}{\text{lb-PM}}\right)}{\left(1{,}024.2\frac{\text{ft}^3}{\text{min}}\right)\left(\frac{100\%}{12\%}\right)\left(60\ \frac{\text{min}}{\text{hr}}\right)}=0.008\ \frac{\text{gr-PM}}{\text{dscf}}$$

Since the permitted grain loading factor is below the rule limit, and the HAEs are surplus of the permitted limit, it is concluded that the reductions are surplus of the standards in this rule.

N-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

NOx:

PE = 0.008 lb-NOx/MMBtu x 28.8 MMBtu/hr
= 0.2 lb-NOx/hr (432 lb-NOx/qtr using 2,160 hr/qtr operation)

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of the standards in this rule.

SOx:

PE = 0.00285 lb-SOx/MMBtu x 28.8 MMBtu/hr
= 0.1 lb-SOx/hr (216 lb/qtr using 2,160 hr/qtr operation)

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of the standards in this rule.

PM:

$$\text{PM}\left(\frac{\text{gr}}{\text{dscf}}\right)=\frac{\left(0.003\ \frac{\text{lb-PM}}{\text{MMBtu}}\right)\left(28.8\ \frac{\text{MMBtu}}{\text{hr}}\right)\left(7{,}000\frac{\text{gr-PM}}{\text{lb-PM}}\right)}{\left(1{,}024.2\frac{\text{ft}^3}{\text{min}}\right)\left(\frac{100\%}{12\%}\right)\left(60\ \frac{\text{min}}{\text{hr}}\right)}=0.001\ \frac{\text{gr-PM}}{\text{dscf}}$$

Since the permitted grain loading factor is below the rule limit, and the HAEs are surplus of the permitted limit, it is concluded that the reductions are surplus of the standards in this rule.

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

Per project N-1172961,

NOx:
PE = 14.063 lb-NOx/hr (30,376 lb-NOx/qtr using 2,160 hr/qtr operation)

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of the standards in this rule.

SOx:

PE = 0.658 lb-SOx/hr (1,421 lb/qtr using 2,160 hr/qtr operation)

Since the HAE is less than the allowable emissions for each quarter, the reductions are surplus of the standards in this rule.

PM:

$$\text{PM}\left(\frac{\text{gr}}{\text{dscf}}\right)=\frac{\left(2.31\ \frac{\text{lb-PM}}{\text{hr}}\right)\left(7{,}000\frac{\text{gr-PM}}{\text{lb-PM}}\right)}{\left(1{,}024.2\frac{\text{ft}^3}{\text{min}}\right)\left(\frac{100\%}{12\%}\right)\left(60\ \frac{\text{min}}{\text{hr}}\right)}=0.031\ \frac{\text{gr-PM}}{\text{dscf}}$$

Since the permitted grain loading factor is below the rule limit, and the HAEs are surplus of the permitted limit, it is concluded that the reductions are surplus of the standards in this rule.

Rule 4305 Boilers, Steam Generators, and Process Heaters – Phase 2
Rule 4306 Boilers, Steam Generators, and Process Heaters – Phase 3
Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters greater than 5.0 MMBtu/hr
Rule 4351 Boilers, Steam Generators, and Process Heaters – Phase 1

Since the emission limits in Rule 4320 are more stringent than the limits in Rule 4305, 4306 and 4351 for gaseous fuel units, surplus analysis with Rule 4320 will be sufficient to prove that the reductions are surplus of the other rules.

N-238-41-4:
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-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

Rule 4320 emission limits for the above units are:

NOx: 2.5 ppmvd @ 3% O2 (0.003 lb/MMBtu)
CO: 400 ppmvd @ 3% O2 (0.295 lb/MMBtu)
Particulate Matter: Use PUC quality natural gas, commercial propane, butane, or LPG, or a combination of such gases, or limit fuel sulfur content to no more than 5 gr-S/100 scf, or emission control system to reduce SO2 emissions by at least 95% by weight or limit SO2 to less than or equal to 9 ppmv @ 3% O2

The following data is used to estimate actual emissions during the baseline period. The units were operated on natural gas fuel.

N-238-41 – NOx: 0.003 lb/MMBtu, CO: 0.002 lb/MMBtu
N-238-42 – NOx: 0.003 lb/MMBtu, CO: 0.00015 lb/MMBtu

The above values are below the rule required NOx and CO limit; therefore, NOx and CO reductions are surplus of the rule limits.

Rule 4309 Dryers, Dehydrators, and Ovens

N-238-10-10:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

Rule 4309 emission limits for the above unit are:

NOx: 4.3 ppmvd @ 19% O2 (equates to 0.048 lb/MMBtu)
CO: 42 ppmvd @ 19% O2 (equates to 0.286 lb/MMBtu)

The following data is used to estimate actual emissions during the baseline period. The unit was operated on natural gas fuel.

NOx: 0.048 lb/MMBtu, CO: 0.0034 lb/MMBtu

The above values are below the rule required NOx and CO limit; therefore, NOx and CO reductions are surplus of the rule limits.

Rule 4703 Stationary Gas Turbines

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

This unit was subject to the following limits:

NOx: 9 ppmvd @ 15% O2 (section 5.1.3 Table 5-3, item a)
CO: 200 ppmvd @ 15% O2 (section 5.2, Table 5-4)

The following data is used to estimate actual emissions during the baseline period. The unit was operated on natural gas fuel.

NOx: 2.0 ppmvd @ 15% O2
CO: 3.6 ppmvd @ 15% O2

The above values were below the rule limits; therefore, NOx and CO reductions are surplus of the rule limits.

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY

LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

This unit was subject to the following limits:

NOx: 5 ppmvd @ 15% O2
CO: 200 ppmvd @ 15% O2

The following source test data is used to estimate actual emissions during the baseline period. The unit was operated on natural gas fuel.

NOx: 1.6 ppmvd @ 15% O2
CO: 0.45 ppmvd @ 15% O2

The above values were below the rule limits; therefore, NOx and CO reductions are surplus of the rule limits.

Rule 4801 Sulfur Compounds

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

N-238-10-10:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

N-238-41-4:
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-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

For each unit listed above, natural gas fuel combustion at a reference state of 60 °F, the Rule 4801 limit of 2,000 ppmvd is equivalent to:

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

The emissions from each of these permit unit were determined using emissions factor below the 2.9 lb/MMBtu limit; therefore, SOx reductions are surplus of the rule limit.

N-238-13-7:
ONE (1) GERM DRYER SERVED BY A CYCLONE, A DUCON TYPE L MODEL II PARTICULATE SCRUBBER, AND A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER.

Source test conducted on March 4, 1997 indicates that the SOx emissions were 0.91 ppm volume dry (Refer to Appendix IV of this document). This data was used in determining the hourly SOx emission rate of 0.026 lb-SOx/hr, which is being used in estimating the HAEs for this unit.

Since the actual emissions which are used to estimate the HAEs are below the 2000 ppm dry limit, the reductions are surplus of this rule limit.

N-238-24-7:
FIRST GRIND OVERFLOW TANK SERVED BY A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER AND A BIOTON MODEL 2-2-34 BIOFILTER (THE CONTROL EQUIPMENT ALSO SERVES N-238-33)

N-238-33-5:
GLUTEN PROCESSING OPERATION CONSISTING OF GLUTEN DRYER (DAVENPORT MODEL RSTD), A GLUTEN CONDITIONER, AND ASSOCIATED CONVEYING SYSTEM. THE GLUTEN CONDITIONER IS VENTED TO THE GLUTEN DRYER WHICH IS SERVED BY A CYCLONE FOLLOWED BY A PARTICULATE MATTER SCRUBBER, A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER, AND A BIOTON MODEL 2-2-34 BIOFILTER (THE SOX & VOC CONTROLS ARE SHARED WITH PERMIT N-238-24)

Units N-238-24 and '-33 shares emission control equipment.

Source test conducted on March 4, 1997 indicates that SOx emissions were 0.82 ppmv dry (Refer to Appendix IV of this document). This data was used in determining the hourly SOx emission rate of 0.074 lb-SOx/hr, which is being used in estimating the HAEs for these units.

Since the actual emissions were 0.82 ppmv dry which are below the 2000 ppm dry limit, the reductions are surplus of this rule limit.

N-238-25-5:
GLUTEN DEWATERING FILTER AND VACUUM SYSTEMS WITH A SOX SCRUBBER ON THE EXHAUST STREAM

Rule 4801 compliance section of the application review under project N-1011485 indicates that the actual SOx emissions will be below the permitted SOx limit of 0.146 lb/hr. The permitted rate is used quantity the HAEs.

Since the HAE are below the permitted limit, the reductions are considered surplus of this rule limit.

N-238-29-4:
SULFUROUS ACID PLANT CONSISTING OF: AN ELEMENTAL SULFUR BURNER AND TWO ABSORBERS VENTED TO A LUNDBERG SCRUBBER WITH A MIST ELIMINATOR; TWELVE STEEP TANKS (69,000 GAL. EACH) AND ONE DRAW TANK VENTED TO THE LINDBERG SCRUBBER SERVING THE ACID PLANT

SOx limit in the permit (0.7 lb-SOx/ton of elemental sulfur burned) was established using manufacturer guaranteed data of 25 ppmv of SO2 at the scrubber stack. This limit was used in estimating the SOx HAE for this unit.

Since the emission limit was derived using 25 ppmvd SO2 limit which is below the 2000 ppmvd limit, the reductions are considered surplus of this rule limit.

Air Quality Plans
Pursuant to section 3.2.2 of Rule 2201, to be considered surplus, the actual emissions reductions shall be in excess of adopted air quality plan pursuant to the California Clean Air Act. The adopted air quality plans by the District are discussed as follows:

District's 2024 Plan for the 2012 Annual PM2.5 Standard[15]

N-238-41, '-42:
The Appendix C[16], Pages C-37 to C-69, of this plan are examined to determine the proposed strategy to reduce combustion emissions from boilers subject to District Rules 4306 and 4320.

The evaluation findings describe that Rules 4306 and 4320 provide for the maximum degree of emission reduction that has been required or achieved from this source category in any other attainment plans or in practice in any other states that can feasibly be implemented in the Valley, and therefore meets or exceeds Best Available Control Measures (BACM) and Most Stringent Measures (MSM).

Therefore, emissions reductions are considered surplus of this plan.

N-238-18 and '-46:
The Appendix C, Pages C-169 to C-185, of this plan are examined to determine the proposed strategy to reduce combustion emissions from gas turbines subject to District Rule 4703.

The evaluation findings describe that Rule 4703 provide for the maximum degree of emission reduction that has been required or achieved from this source category in any other attainment plans or in practice in any other states that can feasibly be implemented in the Valley, and therefore meets or exceeds Best Available Control Measures (BACM) and Most Stringent Measures (MSM).

Therefore, emissions reductions are considered surplus of this plan.

[15] https://www.valleyair.org/rules-and-planning/air-quality-plans/particulate-matter-plans/2024-plan-for-the-2012-pm25-standard/
[16] https://www.valleyair.org/media/roiarw2f/appendix-c.pdf

District's 2018 PM2.5 Plan for the 1997, 2006, and 2012 PM2.5 Standards[17]

N-238-41, '-42:
The Appendix C[18], Pages C-68 to C-94, are examined to determine the proposed strategy to reduce combustion emissions from boilers subject to District Rules 4306 and 4320.

The District committed to work with affected operators to further reduce NOx emissions from boilers, steam generators, and process heaters to the extent that such controls are technologically and economically feasible.

For boiler and process heater greater than 20 MMBtu/hr, NOx emissions were suggested to be reduced to as low as 2 ppmv @ 3% O2. In lieu of this plan, the District has re-evaluated NOx limits in District Rule 4306 and 4320, and adopted 2.5 ppmvd NOx @ 3% O2 for units greater than 20 MMBtu/hr for boilers similar to ones that were shutdown by Ingredion Incorporated. Since the NOx reduction are banked using 2.5 ppmv NOx @ 3% O_2, HAEs are considered surplus of this plan and no further discounting is necessary.

N-238-18 and '-46:
The Appendix C[19], Pages C-241 to C-247, are examined to determine the proposed strategy to reduce combustion emissions from gas turbines subject to District Rule 4703.

This plan does not propose any specific control measures for NOx or PM2.5 or emission limits for the units subject to District Rule 4307. Therefore, the HAE calculated above does not need to be discounted and all bankable emission reductions are considered surplus at this time.

District's 2016 Moderate Area Plan for the 2012 PM2.5 Standard[20]
N-238-41, '-42:
The Attachment 1 – Stationary and Area Source Control Measure Analysis[21], Pages C-35 to C-42, of this plan are examined to determine the proposed NOx and PM control measure for boilers subject to District Rules 4306 and 4320.

The evaluation findings describe that Rule 4306 and 4320 currently have in place the most stringent measures feasible to implement in the Valley and therefore meet or exceed both BACM and MSM requirements for this source

[17] https://ww2.valleyair.org/plans/2018-pm-2-5-plan-for-the-san-joaquin-valley/
[18] https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf
[19] https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf
[20] https://www.valleyair.org/rules-and-planning/air-quality-plans/particulate-matter-plans/2016-moderate-area-plan-for-the-2012-pm25-standard/
[21] https://www.valleyair.org/media/s4olkfkw/f-1.pdf

category. As the District continues to develop new attainment plans that address more stringent National Ambient Air Quality Standards, the District will continue to evaluate potential opportunities to reduce emissions from this source category in the Valley.

Therefore, emissions reductions are considered surplus of this plan.

N-238-18 and '-46:
The Attachment 1 – Stationary and Area Source Control Measure Analysis[22], Pages C-142 to C-152, of this plan are examined to determine the proposed strategy to reduce combustion emissions from gas turbines subject to District Rule 4703.

The evaluation findings describe that Rule 4703 currently has in place the most stringent measures feasible to implement in the Valley and therefore meets or exceeds both BACM and MSM requirements for this source category. As the District continues to develop new attainment plans that address more stringent National Ambient Air Quality Standards, the District will continue to evaluate potential opportunities to reduce emissions from stationary gas turbines in the Valley.

Therefore, emissions reductions are considered surplus of this plan.

District's 2015 Plan for the 1997 PM2.5 Standard[23]

N-238-41, '-42:
The Appendix C[24], Pages C-35 to C-42, are examined to determine the proposed NOx and PM control measure for boilers subject to District Rules 4306 and 4320.
Currently, this plan does not propose any specific control measure or emissions limits, and concludes that Rule 4306 and 4320 currently have in place the most stringent measures feasible to implement in the Valley. Therefore, emissions reductions are considered surplus of this plan for these units.

N-238-18 and '-46:
The Appendix C[25], Pages C-142 to C-152, are examined to determine the proposed NOx and PM control measure for units subject to District Rule 4703.

Currently, this plan does not propose any specific control measure or emissions limits, and concludes that Rule 4703 currently have in place the

[22] https://www.valleyair.org/media/s4olkfkw/f-1.pdf
[23] http://www.valleyair.org/Air_Quality_Plans/PM25Plans2015.htm
[24] http://www.valleyair.org/Air_Quality_Plans/docs/PM25-2015/C.pdf
[25] http://www.valleyair.org/Air_Quality_Plans/docs/PM25-2015/C.pdf

most stringent measures feasible to implement in the Valley. Therefore, emissions reductions are considered surplus of this plan for this unit.

District's 2022 Plan for the 2015 8-Hour Ozone Standard[26]
N-238-41, '-42:
The Appendix C[27], Pages C-30 to C-43, are examined to determine the proposed NOx and VOC control measure for boilers subject to District Rules 4306 and 4320.

The evaluations findings describe that Rules 4306 and 4320 meet or exceed federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air Districts' rules. As the District continues to develop future attainment plans to address increasingly stringent federal air quality standards, this source category will be re-evaluated for additional potential opportunities to reduce emissions.

Therefore, emissions reductions are considered surplus of this plan.

N-238-18 and '-46:
The Appendix C, Pages C-300 to C-313, are examined to determine the proposed NOx and VOC control measures for units subject to District Rule 4703.

Currently, this plan does not propose any specific control measures for NOx or VOC or emission limits for the units subject to District Rule 4703. The evaluation findings describe Rule 4703 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air Districts' rules. As the District continues to develop future attainment plans to address increasingly stringent federal air quality standards, this source category will be re-evaluated for additional potential opportunities to reduce emissions. Therefore, the HAE calculated above does not need to be discounted and all bankable emission reductions are considered surplus at this time.

District's 2016 Plan for the 2008 8-Hour Ozone Standard[28]
N-238-41, '-42:
The Appendix C[29], Pages C-27 to C-31, are examined to determine the proposed NOx and VOC control measure for boilers subject to District Rules 4306 and 4320.

[26] https://www.valleyair.org/rules-and-planning/air-quality-plans/ozone-plans/2022-ozone-plan-for-the-san-joaquin-valley/
[27] https://www.valleyair.org/media/drco33tb/12-appendix-c-stationary.pdf
[28] http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm
[29] http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016/c.pdf

This plan does not propose any specific control measures for NOx or VOC or emission limits for the boilers subject to District Rule 4320. Therefore, the HAE calculated above does not need to be discounted and all bankable emission reductions are considered surplus at this time.

N-238-18 and '-46:
The Appendix C[30], Pages C-198 to C-200, are examined to determine the proposed NOx and VOC control measure for units subject to District Rule 4703.

Currently, this plan does not propose any specific control measures for NOx or VOC or emission limits for the units subject to District Rule 4703. Therefore, the HAE calculated above does not need to be discounted and all bankable emission reductions are considered surplus at this time.

Rules and Regulations in State Implementation Plan (SIP)

Pursuant to section 3.2.2, to be considered surplus, actual emission reductions shall be in excess of a control measure noticed for workshop, or proposed or contained in a State Implementation Plan (SIP).

The following SIP approved rules and regulations[31] in the other air Districts are reviewed to determine any requirements for the boilers and cogen equipment that were shutdown at Ingredion Incorporated.

Bay Area Air Quality Management District
Regulation 9 Rule 7 - Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional and Commercial Boilers, Steam Generators and Process Heaters (May 4, 2011)

N-238-41 and '-42
Per section 9-7-307, boilers, steam generators or process heaters with a rated heat input of 20 to less than 75 MMBtu/hr are required to comply with the following limits:

NOx: 9 ppmvd @ 3% O2 (equates to 0.011 lb-NOx/MMBtu)
CO: 400 ppmvd @ 3% O2 (equates to 0.295 lb-CO/MMBtu)

N-238-41 – NOx: 0.003 lb/MMBtu, CO: 0.002 lb/MMBtu
N-238-42 – NOx: 0.003 lb/MMBtu, CO: 0.00015 lb/MMBtu

Therefore, NOx and CO reductions are surplus of the rule limits.

[30] http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016/c.pdf
[31] https://www.epa.gov/air-quality-implementation-plans/approved-air-quality-implementation-plans-region-9?readform&count=100&state=California

Regulation 9 Rule 9 – Nitrogen Oxides from Stationary Gas Turbines (December 6, 2006)

N-238-18
Per section 9-9-301.2, turbines rated between 5-50 MMBtu/hr operated on natural gas fuel are required to achieve 42 ppmvd NOx @ 15% O2.

The following data is used to estimate actual emissions during the baseline period. The unit was operated on natural gas fuel.

NOx: 2.0 ppmvd @ 15% O2

Therefore, NOx reductions are surplus of this Rule.

N-238-46
Per section 9-9-301.2, turbines rated between 50-150 MMBtu/hr with DLN technology and operated on natural gas fuel are required to achieve 25 ppmvd NOx @ 15% O2.

The following source test data is used to estimate actual emissions during the baseline period. The unit was operated on natural gas fuel.

NOx: 1.6 ppmvd @ 15% O2

Therefore, NOx reductions are surplus of this Rule.

Ventura County Air Pollution Control District
Rule 74.15 – Boilers, Steam Generators and Process Heaters (November 10, 2020)

N-238-41 and '-42
Per section B.2, the limits are as follows:

NOx: 9 ppmv @ 3% O2 (equates to 0.011 lb-NOx/MMBtu)
CO: 400 ppmv @ 3% O2 (equates to 0.295 lb-CO/MMBtu)

The following source test data is used to estimate actual emissions during the baseline period. The units were operated on natural gas fuel.

N-238-41 – NOx: 0.003 lb/MMBtu, CO: 0.002 lb/MMBtu
N-238-42 – NOx: 0.003 lb/MMBtu, CO: 0.00015 lb/MMBtu

Therefore, NOx and CO reductions are surplus of the rule limits.

Rule 74.23 - Stationary Gas Turbines (November 12, 2019)

N-238-18
Per section B.1 of this rule, for 0.3 to less than 2.9 MW fired on gaseous fuel, NOx limit is 42 ppmv @ 15% O2

The following data is used to re-estimating actual emissions during the baseline period. The unit was operated on natural gas fuel.

NOx: 2.0 ppmvd @ 15% O2

Therefore, NOx reductions are surplus of this Rule.

N-238-46
Per section B.1 of this rule, for 2.9 MW to less than 10.0 MW, units on gaseous fuels, NOx limit is determined in the following manner:

NOx = 25 x E/25 ppmv, where,

E = Unit's efficiency = (MRE at LHV)(LHV)/HHV,

MRE is the manufacturer's rated thermal efficiency, and shall not be less than 25%. LHV and HHV are lower heating value and higher heating value of the fuel respectively.

MRE data is not available; default value of 25% will be used.

NOx = 25 x (0.25*918/1,020) = 5.6 ppmv @ 15% O2

The following source test data is used to estimate actual emissions during the baseline period. The unit was operated on natural gas fuel.

NOx: 1.6 ppmvd @ 15% O2

Therefore, NOx reductions are surplus of this Rule.

South Coast Air Quality Management District
Rule 1146 - Emissions of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (December 4, 2020)

N-238-41 and '-42:
Per section (c)(1), the most stringent NOx limit for Group 1 units (≥75 MMBtu/hr) Group II units (i.e., 20 MMBtu/hr to less than 75 MMBtu/hr) is 5 ppmvd NOx @ 3% O2 (equates to 0.003 lb-NOx/MMBtu). Further, per section (c)(3), units shall not discharge more than 400 ppmvd CO @ 3% O2 (equates to 0.295 lb-CO/MMBtu).

The following source test data is used to estimate actual emissions during the baseline period. The units were operated on natural gas fuel.

N-238-41 – NOx: 0.003 lb/MMBtu, CO: 0.002 lb/MMBtu
N-238-42 – NOx: 0.003 lb/MMBtu, CO: 0.00015 lb/MMBtu

Therefore, NOx and CO reductions are surplus of the rule limits.

Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (February 4, 2022)

N-238-18:
Per section (d)(3) Table I natural gas fired combined cycle/cogeneration turbines are required to achieve 2 ppmvd NOx @ 15% O2 (equates to 0.007 lb-NOx/MMBtu).

HAEs are estimated using an EF of 3.1 ppmvd NOx @ 15% O2 (0.011 lb-NOx/MMBtu). Per District practice, the District discounts for other District Rules included in the SIP. Since this EF is higher than that of the NOx limit in this rule, HAEs will be reduced to the South Coast Rule 1134 limit.

NOx:
EF (lb/MMBtu) = {EF (ppmvd @ 3% O2) x 46 lb-NO2/lb-mole x 8,578 dscf/MMBtu x 20.95/(20.95-15)}/{379.5 dscf/lb-mole x 10^6}

Natural gas consumed (MM cubic feet) during the baseline period is summarized in the following table.

Process Rate (MM cubic feet natural gas/qtr)				
Year	**Q1**	**Q2**	**Q3**	**Q4**
2017	--	74	90	83
2018	82	73	73	73
2019	0	--	--	--
Average	41	73	82	78

HAE = EF (lb/MMBtu) x Fuel Usage (MM cf/qtr) x 1,000 Btu/cf

Unit/Process	**EF**	**HAE (lb/qtr)**			
		Q1	**Q2**	**Q3**	**Q4**
Gas turbine	2 ppmvd @ 15% O2 (equates to 0.007 lb/MMBtu)	287	511	574	546

N-238-46:
Per section (d)(3) Table I natural gas fired combined cycle/cogeneration turbines are required to achieve 2 ppmvd NOx @ 15% O2 (equates to 0.007 lb-NOx/MMBtu).

The following source test data is used to estimate actual emissions during the baseline period. The unit was operated on natural gas fuel.

N-238-46 – NOx: 1.6 ppmvd @ 15% O_2

Therefore, reductions are surplus of the rule limit.

Sacramento Metropolitan Air Quality Management District
Rule 411 - NOx from Boilers, Process Heaters and Steam Generators (August 23, 2007)

N-238-41 and '-42:

Per section 301, units greater than 20 MMBtu/hr, are required to achieve the following limits:

NOx: 9 ppmvd @ 3% O_2 (0.011 lb-NOx/MMBtu)
CO: 400 ppmvd @ 3% O_2 (0.295 lb-CO/MMBtu)

The following source test data is used to estimate actual emissions during the baseline period. The units were operated on natural gas fuel.

N-238-41 – NOx: 0.003 lb/MMBtu, CO: 0.002 lb/MMBtu
N-238-42 – NOx: 0.003 lb/MMBtu, CO: 0.00015 lb/MMBtu

Therefore, NOx and CO reductions are surplus of the rule limits.

Rule 413 - Stationary Gas Turbines (March 24, 2005)

N-238-18 and '-46:

Per section 302.1, item b, units greater than or equal to 2.9 MW and less than 10 MW, operated 877 hours or more per calendar year are required to achieve 25 ppmvd NOx @ 15% O2.

The following data is used to estimate actual emissions during the baseline period. The units were operated on natural gas fuel.

N-238-18: 2.0 ppmvd NOx @ 15% O_2
N238-46: 1.6 ppmvd NOx @ 15% O_2

Therefore, reductions are surplus of the rule limit.

F. Not used for the approval of an Authority to Construct or as Offsets

The ERCs generated by the shutdown of the emission units were not used in the approval of an Authority to Construct or as offsets for any project.

G. Timely Submittal

Section 5.5 of Rule 2301 requires that the ERC applications shall be submitted within 180 days after shutdown (date of permanent cession of emissions). The equipment was shutdown on December 1, 2018, and the ERC application was received May 3, 2019. The application was received within 180 days after the shutdown date. Therefore, the application was submitted in a timely fashion.

VII. RECOMMENDATION

The District recommends that ERC Certificates should be issued to Ingredion Incorporated for the amount (pounds) indicated in the following table.

Pollutant	Bankable Emission Reductions (pounds)			
	Q1	Q2	Q3	Q4
NO_x	1,329	2,499	2,634	1,951
SO_x	732	1,454	1,585	1,099
PM_{10}	3,775	7,921	7,879	5,691
$PM_{2.5}$ in PM_{10}	1,397	2,852	2,836	2,106
CO	469	875	949	802
VOC	2,393	5,347	5,778	3,622

APPENDICES

Appendix I: Draft ERC Certificates
Appendix II: Processing Rate Records and Baseline Period Calculations
Appendix III: Source Test Summaries
Appendix IV: HAE Summary Sheet
Appendix V: Surrendered Permits to Operate
Appendix VI: $PM_{2.5}/PM_{10}$ Calculations
Appendix VII: Public Comments and District Response

Appendix I
Draft ERC Certificates

San Joaquin Valley
Air Pollution Control District

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718

Emission Reduction Credit Certificate

N-1589-1

DRAFT

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For VOC Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
2,393 lbs	5,347 lbs	5,778 lbs	3,622 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

DRAFT

Brian Clements, Director of Permit Services

12/24/2025 8:51:10 AM – KAHLDALI

San Joaquin Valley
Air Pollution Control District

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718

Emission Reduction Credit Certificate

N-1589-2

DRAFT

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For NOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
1,329 lbs	2,499 lbs	2,634 lbs	1,951 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

DRAFT

Brian Clements, Director of Permit Services

12/24/2025 9:51:15 AM – KAHLONJ

San Joaquin Valley
Air Pollution Control District

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718

Emission Reduction Credit Certificate

N-1589-3

DRAFT

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For CO Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
469 lbs	875 lbs	949 lbs	802 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

DRAFT

Brian Clements, Director of Permit Services

12/24/2025 8:51:20 AM – KAHLONJ

San Joaquin Valley
Air Pollution Control District

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718

Emission Reduction Credit Certificate

N-1589-4

DRAFT

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For PM10 Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
3,775 lbs	7,921 lbs	7,879 lbs	5,691 lbs

Portion of above PM10 Reductions that is PM2.5:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
37.0%	36.0%	36.0%	37.0%
1,397 lbs	2,852 lbs	2,836 lbs	2,106 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

DRAFT

Brian Clements, Director of Permit Services

12/24/2025 8:51:28 AM – KAHLONJ

San Joaquin Valley
Air Pollution Control District

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718

Emission Reduction Credit Certificate

N-1589-5

DRAFT

ISSUED TO: INGREDION INCORPORATED

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

For SOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
732 lbs	1,454 lbs	1,585 lbs	1,099 lbs

Method Of Reduction

[X] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Units
[ ] Other

Shutdown of entire stationary source

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

DRAFT

Brian Clements, Director of Permit Services

12/24/2025 8:51:31 AM – KAHLONJ

Appendix II
Production Records and Baseline Period Calculations

5-year Production Record Summary

Device ID #	Process Number	Equipment Type	Units Source Classification Code	Q3-2014	Q4-2014	Q1-2015	Q2-2015	Q3-2015	Q4-2015	Q1-2016	Q2-2016	Q3-2016	Q4-2016	Q1-2017	Q2-2017	Q3-2017	Q4-2017	Q1-2018	Q2-2018	Q3-2018	Q4-2018	Q1-2019	Q2-2019
15	1	Bulk germ loadout	TONS	8,039	6,395	6,563	7,351	7,358	5,310	4,706	6,393	7,255	6,765	6,253	7,134	7,612	6,120	6,070	6,598	6,956	2,886	0	0
			30200755	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	2	Starch flash dryer - Process emissions	TONS STARCH PRODUCED	32,421	12,856	5,696	9,066	43,963	4,905	6,654	41,023	6,297	8,059	9,443	19,121	19,639	18,110	17,130	15,702	11,721	7,167	0	0
			30201413	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	Bulk gluten loadout system	TONS	5,469	4,356	3,559	4,268	3,776	2,991	2,532	3,757	3,980	2,077	3,360	3,929	4,712	4,083	4,017	3,685	3,909	1,462	0	0
			30200755	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
--	--	Corn syrup produced	TONS	92,030	72,417	71,327	82,549	87,493	54,449	56,948	70,317	81,228	70,598	69,928	77,407	87,234	71,407	71,708	75,332	88,937	33,201	0	0
TOTAL				137,959	96,023	87,145	103,233	142,591	67,655	70,839	121,490	98,759	87,499	88,984	107,590	119,198	99,720	98,924	101,318	111,523	44,715	0	0

2-year Baseline Period Calculations

Calendar Quarter	Material Processing Rate (short tons)	8 Quarter Difference
Q3 2014	137,959	
Q4 2014	96,023	
Q1 2015	87,145	
Q2 2015	103,233	
Q3 2015	142,591	
Q4 2015	67,655	
Q1 2016	70,839	
Q2 2016	121,490	14,109
Q3 2016	98,759	9,209
Q4 2016	87,499	8,143
Q1 2017	88,984	8,373
Q2 2017	107,590	8,918
Q3 2017	119,198	5,994
Q4 2017	99,720	10,002
Q1 2018	98,924	13,512
Q2 2018	101,318	10,991
Q3 2018	111,523	12,586
Q4 2018	44,715	7,238
Q1 2019	0	3,885
Q2 2019	0	17,334
Average:	89,258	

The values in this column represent the absolute value of the difference between the facility's quarterly processing rate averaged over the last 5 years since the date the application was complete (89,258 tons - considered to be "normal" source operation) and the quarterly processing rate averaged over the previous 8 consecutive calendar quarters starting with Q3 2014 (application was deemed complete in September, 2019). The smallest "difference" is assumed to be the 8 consecutive calendar quarter period whose averaged processing rate most closely represents "normal" source operation. For example:

3,885 = ABS(89,258 - (SUM(Q2 2017 through Q1 2019)/8).

Since this value is the smallest "difference", the 8 consecutive calendar quarter period associated with it (Q2 2017 - Q1 2019) is assumed to most closely represent "normal" source operation. Therefore, the baseline period is from **Q2 2017 - Q1 2019.**

Appendix III
Source Test Summaries

Source Test Summary for N-238-10-10

AIRx Testing Services, Inc.

Prepared For:
Ingredion, Inc.
P.O. Box 6129
1021 Industrial Drive
Stockton, CA 95206-0129
(209) 982-1920 Ext: 233

Attn: Roger Hoffdahl

Source Emission Compliance Testing
One (1) 21.0 MMBtu/hr Natural Gas-Fired Starch Flash Dryer
PTO No. N-238-10-10
Tested On: October 26, 2016

Prepared By:
AIRx Testing Services, Inc.
2472 Eastman Avenue, Suite 34
Ventura, CA 93003-5774
(805) 644-1099
Madera Office – (559) 674-3303

Job Number:
3158

Laboratory Report Number:
316-055

Test Team Leader:
Carlos Daniel
Senior Source Test Engineer

Reviewed By:
Gabor Lazar
Office Manager

Submitted:
November 29, 2016

AIR TESTING SERVICES, INC.

Ingredion, Inc.

Stockton, CA

Starch Flash Dryer - PCC/Bloom 21 MMBtu/hr

Permit Number: N-238-10-10

SJVAPCD COMPLIANCE TESTING

TEST-RUN #	1	2	3	Averages	Limit
Test Location	Outlet	Outlet	Outlet	Outlet	
Test Date	**10/26/2016**	**10/26/2016**	**10/26/2016**	**10/26/2016**	
Test Start-Time	11:30	12:18	13:01	**NA**	
Test End-Time	12:00	12:48	13:31	**NA**	
Test Duration, minutes	**0:30**	**0:30**	**0:30**	**0:30**	
Standard Temperature, °F	60	60	60	**NA**	
Dryer Rating, MMBtu/hr	21.0	21.0	21.0	**21.0**	
F-Factor, dscf/MMBtu	8578	8578	8578	**8578**	
Dryer Load, MMBtu/hr	**12.1**	**12.5**	**11.9**	**12.2**	
Dryer Load, %	57.7	59.7	56.7	**58.0**	
Flow Rate, dscfm	O2 Too High	O2 Too High	O2 Too High	**NA**	
O2, %	**19.8**	**19.9**	**19.8**	**19.8**	
NOx, ppm	4.3	4.2	4.4	**4.3**	
NOx, ppm @ 19% O2 - Or No Corr.	**4.3**	**4.2**	**4.4**	**4.3**	**4.3**
NOx, lbs/MMBtu	O2 Too High	O2 Too High	O2 Too High	**NA**	
CO, ppm	0.5	0.1	0.4	**0.3**	
CO, ppm @ 19% O2 - Or No Corr.	**0.5**	**0.1**	**0.4**	**0.3**	**42**
CO, lbs/MMBtu	O2 Too High	O2 Too High	O2 Too High	**NA**	

= **No Correction O2 > 19%**

CONTINUOUS EMISSIONS MONITORING - CARB METHOD 1-100

Client : Ingredion, Inc.
Site : Stockton, CA
Unit : Starch Flash Dryer

Date : 10/26/2016
Job# : 3158
Lab# : 316-055

FIELD DATA - COMPLIANCE

Test Length 0:30 mins. Points 7

Standard Temperature, T std: 60 °F

Drift Corrected Emissions Data

		Run #1	*Run #2*	*Run #3*		**Averages**
	NOx	4.3	4.2	4.4	ppmv	**4.3**
	O2	19.8	19.9	19.8	%	**19.8**
10% FS	CO	< 10	< 10	< 10	ppmv	**< 10**
Actual	CO	0.5	0.1	0.4	ppmv	**0.3**

Dryer and Flow Data

Dryer :	12.2	MMBtu/hr
Exhaust F-Factor :	8,578	dscf/MMBtu
Fuel Rate :	196	scfm (average)
Fuel Gas :	1,035	Btu/scf
Q std :	NA	dscfm (average)

Equations used:
NOx or CO @ 19% O2 = [ppmv] * (1.9 / (20.9 - %O2))
lb/MMBtu = ppmv * F-Factor * MW * (0.0000013711 / (Tstd + 460)) * (20.9 / (20.9 - %O2))

CALCULATED EMISSIONS - COMPLIANCE
OUTLET

	NOx	**4.3**	**ppmv**
		4.3	**ppmv @ 19% O2 = Or No Corr. If O2 > 19%**
	O2	**19.8**	**%**
10% FS	CO	**< 10**	**ppmv**
		< 10	**ppmv @ 19% O2 - Or No Corr. If O2 > 19%**
Actual	CO	**0.3**	**ppmv**
		0.3	**ppmv @ 19% O2 - Or No Corr. If O2 > 19%**

Source Test Summary for N-238-13-7 & '-33-5

Corn Products
a Unit of CPC International
Stockton Plant
P.O. Box 6129
1021 Industrial Dr., Stockton, CA 95206-0129
209-982-1920

CPC International

March 19, 1997

Mr. John Cadrett
Air Quality Inspector
San Joaquin Valley Unified Air Pollution Control District
Northern Regional Office
4230 Kiernan Ave., Suite 130
Modesto, CA 95356

RE: Application #: N-238-13-3, N-238-7-3, N238-24-3
Project Description: One new Bioton Biofilter and Two Caustic Scrubbers

Dear Mr. Cadrett:

Enclosed is a copy of out 1997 Emission Compliance Testing for the Biofilter and Caustic Scrubbers. This information is being forwarded for use in converting the above mentioned ATC's to PTO's.

If you have any questions regarding this letter or need additional information please contact me at (209) 982-1920 ext.241. Your attention to this letter is greatly appreciated.

Sincerely,

Gregg L. Willis
Plant Engineer

cc: G. Sadek
R. Brawley

TABLE 1-1
SUMMARY OF AVERAGE RESULTS
CORN PRODUCTS, STOCKTON, CALIFORNIA
MARCH 4, 1997

Location	Bioton Biofilter	Germ Dryer SO_2 Scrubber
Stack Gas		
Temperature, °F	100	95
H_2O, % vol.	6.2	5.5
Vol. Flow, acfm	10,070	3,163
Vol. Flow, scfm (wet)	9,486	3,004
Vol. Flow, dscfm	8,896	2,838
Emissions		
Total HC, ppm vol. (wet)	10.7	54.5
Total HC, lb/hr as Methane	0.26	0.42
SO_x, ppm vol. dry	0.82	0.91
SO_x, lb/hr as SO_2	0.074	0.026

TABLE 4-2
RESULTS SUMMARY
CORN PRODUCTS, STOCKTON, CALIFORNIA
GERM DRYER SO_2 SCRUBBER
MARCH 4, 1997

Run No.	4	5	6	Average
Stack Gas				
Temperature, °F	95	95	96	95
H_2O, % vol.	5.5	5.5	5.6	5.5
Vol. Flow, acfm	3,233	3,106	3,150	3,163
Vol. Flow, scfm (wet)	3,072	2,951	2,989	3,004
Vol. Flow, dscfm	2,904	2,789	2,822	2,838
Emissions				
Total HC, ppm vol. (wet)	74.35	50.10	39.14	54.53
Total HC, lb/hr as Methane	0.578	0.374	0.296	0.416
SO_x, ppm vol. dry	1.27	0.82	0.64	0.91
SO_x, lb/hr as SO_2	0.037	0.023	0.018	0.026

Source Test Summary for N-238-18-10

Ingredion, Inc.

PERMIT NO: N-238-18-10

Compliance Emissions Test Report #17328b

3MW Gas Turbine

Located at:
Ingredion, Inc.
1021 Industrial Drive
Stockton, CA 95206

Prepared For:
Ingredion, Inc.
1021 Industrial Drive
Stockton, CA 95206

For Submittal To:
Jessica Mohatt
San Joaquin Valley APCD
4800 Enterprise Way
Modesto, CA 95356
SourcetestN@valleyair.org

Testing Performed On:
November 16th, 2017

Final Report Submitted On:
January 12th, 2018

Performed and Reported by:
Blue Sky Environmental, Inc.
624 San Gabriel Avenue
Albany, CA 94706
blueskyenvironmental@yahoo.com
(510) 525 1261

TABLE #1

INGREDION
3MW Turbine
Permit N-238-18-10

TEST	1	2	3	AVERAGE	LIMITS
Test Location	Outlet	Outlet	Outlet		
Test Date	11/16/17	11/16/17	11/16/17		
Test Time	0758-0831	0848-0918	0933-1003		
Standard Temp., °F	68	68	68		
Turbine MW	3.10	3.10	3.10		
Water/Fuel Injection Rate (%)	**0.74**	**0.74**	**0.74**	**0.74**	**>0.57**
NH_3 Injection Rate, lb/hr	**8.06**	**8.02**	**8.12**	**8.07**	**>5.1**
NH_3 Catalyst Temperature (°F)	**486.25**	**487.55**	**483.23**	**485.68**	
Flow Rate, DSCFM (M19)	29,077	29,049	28,911	29,013	
O_2, %	15.9	15.9	15.9	15.9	
NOx, ppm	2.6	2.6	2.6	2.6	
NOx, ppm (@15% O_2)	**3.0**	**3.1**	**3.1**	**3.1**	**<9**
NOx, lbs/hr	0.533	0.535	0.534	0.534	
CO, ppm	3.0	3.0	3.0	3.0	
CO, ppm (@15% O_2)	**3.6**	**3.6**	**3.6**	**3.6**	**<120**
CO, lbs/hr	0.380	0.380	0.378	0.380	
NH_3, ppm	1.7	1.8	1.8	1.7	
NH_3, ppm (@15% O_2)	**2.0**	**2.1**	**2.1**	**2.1**	**<5**
NH_3, lbs/hr	0.00001	0.00001	0.00001	0.00001	

WHERE,

NOx = Oxides of Nitrogen as NO_2 (MW = 46)
CO = Carbon Monoxide (MW = 28)
NH_3 = Ammonia (MW = 17)
ppm = Parts Per Million Concentration
lbs/hr = Pound Per Hour Emission Rate
Tstd. = Standard Temp.; °R = °F+ 460

CALCULATIONS,

15%O_2 correction = ppm (NOx, CO) * 5.9/(20.9 - %O_2)
lbs/hr =ppm * 8.223 E-5 * DSCFM * MW of pollutant / Tstd. °R

Source Test Summary for N-238-41-4

Ingredion, Inc.

PERMIT NO: N-238-41-4

Compliance Emissions Test Report #17328a

185 MMBTU/HR Zurn Boiler

Located at:
Ingredion, Inc.
1021 Industrial Drive
Stockton, CA 95206

Prepared For:
Ingredion, Inc.
1021 Industrial Drive
Stockton, CA 95206

For Submittal To:
Jessica Mohatt
San Joaquin Valley APCD
4800 Enterprise Way
Modesto, CA 95356
SourcetestN@valleyair.org

Testing Performed On:
November 16th, 2017

Final Report Submitted On:
January 9th, 2018

Performed and Reported by:
Blue Sky Environmental, Inc.
624 San Gabriel Avenue
Albany, CA 94706
blueskyenvironmental@yahoo.com
(510) 525 1261

TABLE #1

INGREDION
BOILER #1
Permit N-238-41-4

TEST	1	2	3	AVERAGE	LIMITS
Test Location	Outlet	Outlet	Outlet		
Test Date	11/14/17	11/14/17	11/14/17		
Test Time	0909-0942	1004-1037	1059-1133		
Standard Temp., °F	68	68	68		
Boiler Rating, MMBtu/Hr	185.00	185.00	185.00		
LOAD, MMBtu/Hr	124.3	124.3	124.3		
Percent Fire Rate	67%	67%	67%	67%	
FGR Rate (Calculated)	0.21	0.21	0.21	0.21	
Flow Rate, DSCFM (M19)	22,951	22,993	23,039	22,994	
O_2, %	4.5	4.5	4.5	4.5	
NOx, ppm	5.2	5.2	5.1	5.2	
NOx, ppm (@3% O_2)	**5.7**	**5.7**	**5.6**	**5.7**	**7**
NOx, lbs/MMBtu	0.007	0.007	0.007	0.007	
NOx, lbs/hr	0.862	0.854	0.843	0.853	
CO, ppm	3.0	3.0	3.0	3.0	
CO, ppm (@3% O_2)	**3.3**	**3.3**	**3.3**	**3.3**	**50**
CO, lbs/MMBtu	0.002	0.002	0.002	0.002	
CO, lbs/hr	0.300	0.301	0.301	0.301	

WHERE,

NOx = Oxides of Nitrogen as NO_2 (MW = 46)
CO = Carbon Monoxide (MW = 28)
lbs/MMBtu = Pounds per Million Btu
ppm = Parts Per Million Concentration
lbs/hr = Pound Per Hour Emission Rate
Fd = 8710 (EPA F Factor for Natural Gas)
Tstd. = Standard Temp.; °R = °F+ 460

CALCULATIONS,

$3\%O_2$ correction = ppm (NOx, CO) * 17.9/(20.9 - $\%O_2$)
lbs/hr =ppm * 8.223 E-5 * DSCFM * MW of pollutant / Tstd. °R
lbs/MMBtu = Fd * MW * ppm * 2.59E-9 * 20.9/(20.9 - $\%O_2$)

Source Test Summary for N-238-42-0

AIRx Testing

Prepared For:
Ingredion, Inc.
P.O. Box 6129
1021 Industrial Drive
Stockton, CA 95206-0129
(209) 982-1920 Ext: 233

Attn: Roger Hoffdahl

Source Emission Compliance Testing
One (1) 28.8 MMBtu/hr Natural Gas-Fired Hurst Boiler
ATC No. N-238-42-0
Tested On: July 15, 2014

Prepared By:
AIRx Testing Services, Inc.
2472 Eastman Avenue, Suite 34
Ventura, CA 93003-5774
(805) 644-1099
Madera Office – (559) 674-3303

Job Number:
3158

Laboratory Report Number:
314-040

Test Team Leader:
Carlos Daniel
Senior Source Test Engineer

Reviewed By:
Gabor Lazar
Office Manager

Submitted:
July 30, 2014

AIR TESTING

Ingredion, Inc.

Stockton, CA

Boiler - Hurst 28.8 MMBtu/hr

Permit Number: N-238-42-0

SJVAPCD COMPLIANCE TESTING

TEST-RUN #	1	2	3	Averages	Limit
Test Location	Outlet	Outlet	Outlet	Outlet	
Test Date	**7/15/2014**	**7/15/2014**	**7/15/2014**	**7/15/2014**	
Test Start-Time	7:36	8:18	9:00	**NA**	
Test End-Time	8:06	8:48	9:30	**NA**	
Test Duration, minutes	**0:30**	**0:30**	**0:30**	**0:30**	
Standard Temperature, °F	60	60	60	**NA**	
Boiler Rating, MMBtu/hr	28.8	28.8	28.8	**28.8**	
F-Factor, dscf/MMBtu	8578	8578	8578	**8578**	
Boiler Load, MMBtu/hr	**22.5**	**22.5**	**22.6**	**22.5**	
Boiler Load, %	78.3	78.3	78.3	**78.3**	
Flow Rate, dscfm	5,776	5,760	5,795	**5,777**	
O2, %	**9.2**	**9.2**	**9.3** ✓	**9.2**	
NOx, ppm	1.8	1.9	1.9 ✓	**1.9**	
NOx, ppm @ 3% O2	**2.7**	**2.9**	**2.9** ✓	**2.9**	**7.0** ✓ ✓
NOx, lbs/MMBtu	**0.0033**	**0.0035**	**0.0036**	**0.0035**	**0.008** ✓
CO, ppm	< 0.1	< 0.1	< 0.1 ✓	**< 0.1**	
CO, ppm @ 3% O2	**< 0.2**	**< 0.2**	**< 0.2** ✓	**< 0.2**	**50** ✓
CO, lbs/MMBtu	**< 0.00011**	**< 0.00011**	**< 0.00011**	**< 0.00011**	**0.037** ✓

Source Test Summary for N-238-46-1

N-2386
5/9/18

Ingredion, Inc.

Compliance Emissions Test Report #18144

One 7.3 MW Solar Turbines Taurus 70 Natural Gas Fired Turbine
Permit #s N-2386-46-1
Located at:
Ingredion, Inc.
1021 Industrial Drive
Stockton, CA 95206

Performed and Reported by:
Blue Sky Environmental, Inc.
624 San Gabriel Avenue
Albany, CA 94706
Blueskyenvironmental@yahoo.com

Prepared For:
Roger Hoffdahl
Ingredion, Inc.
1021 Industrial Drive
Stockton, CA 95206
Roger.Hoffdahl@ingredion.com

For Submittal To:
Jessica Mohatt
San Joaquin Valley APCD
4800 Enterprise Way
Modesto, CA 95356
Source.TestNorth@valleyair.org

Testing Performed On:
May 9th, 2018

Final Report Submitted On:
July 2nd, 2018

TABLE # 1

Ingredion, Inc.
7.3 MW Turbine
Steady State with Duct Burners

RUN	1	2	3	AVERAGE	LIMITS
Test Date	5/9/18	5/9/18	5/9/18		
Test Time	0849-0921	0939-1012	1059-1132		
Standard Temp., °F	60	60	60	70	
Fuel Flow Rate, DSCFM	2,911.0	2,899.3	2,857.9	2,905.2	
Exhaust Flow Rate, DSCFM (Method 2)	47,207	46,351	49,690	46,779	
Water Vapor, H_2O, %	14.3	13.6	14.1	14.0	
Oxygen, O_2, %	7.5	7.4	7.6	7.4	
Carbon Dioxide, CO_2, %	7.9	8.0	7.9	7.9	
Carbon Dioxide, lbs/hr	26,025	25,675	27,293	25,850	
NOx, ppm	3.3	3.3	2.4	3.3	
NOx, ppm @ 15% O_2	**1.4**	**1.4**	**1.1**	**1.4**	**2.5**
NOx, lbs/hr	**1.121**	**1.109**	**0.864**	**1.115**	**2.125**
CO, ppm	<0.2	<0.2	<0.2	<0.2	
CO, ppm @ 15% O_2	**<0.09**	**<0.09**	**<0.09**	**<0.09**	**6.00**
CO, lbs/hr	**<0.042**	**<0.041**	**<0.044**	**<0.041**	**3.095**
THC, ppm (EPA M18)	2.5	1.7	2.0	2.1	
THC, lbs/hr as CH_4	0.30	0.20	0.25	0.25	
CH_4, ppm (EPA M18)	<0.1	<0.1	<0.1	<0.1	
CH_4, lbs/hr	<0.012	<0.012	<0.013	<0.012	
VOC, ppm as CH4 (EPA M18)	2.4	1.6	1.9	2.0	
VOC, ppm @ 3% O2	3.21	2.12	2.56	2.66	
VOC, ppm @ 15% O2	**1.1**	**0.7**	**0.8**	**0.9**	**2.0**
VOC, lbs/hr as CH4	**0.287**	**0.188**	**0.239**	**0.237**	**0.601**
VOC, gm/BHp-hr as CH4	0.04	0.03	0.04	0.04	
NH_3, ppm	11.50	18.80	16.00	15.43	
NH_3, ppm @ 15% O_2	**5.1**	**8.2**	**7.1**	**6.8**	**10**
NH_3, lbs/hr	**1.462**	**2.347**	**2.141**	**1.983**	**3.142**

WHERE,

ppm = Parts Per Million Concentration
Lbs/hr = Pound Per Hour Emission Rate
Tstd. = Standard Temp. (°R = °F+460)
MW = Molecular Weight
DSCFM = Dry Standard Cubic Feet Per Minute
NOx = Oxides of Nitrogen as NO_2 (MW = 46)
CO = Carbon Monoxide (MW = 28)
THC = Total Hydrocarbons as Methane (MW = 16)
VOC = Volatile Organic Compounds (MW = 16)

CALCULATIONS,

PPM @ 15% O_2 = ppm * 5.9 / (20.9 - %O_2)
PPM @ 3% O_2 = ppm * 17.9 / (20.9 - %O_2)
Lbs/hr = ppm x 8.223 E-05 x DSCFM x MW / Tstd. °R
Lbs/day = Lbs/hr * 24

BLUE SKY ENVIRONMENTAL, INC

TABLE #2
Particulate Matter <10 microns and Condensable Results Average
Ingredion
7 MW Turbine
Permit #N-2386-46-1

Test No:	1-PM10	2-PM10	3-PM10	Averages	Limits
Date:	5-9-18	5-9-18	5-9-18	--	
Time:	0847-1029	1046-1220	1245-1416	--	
O_2, % volume dry:	7.50	7.40	7.60	7.50	
CO_2, % volume dry:	7.90	8.00	7.90	7.93	
Moisture Content, % by volume:	13.03	15.61	16.54	15.06	
Stack Temperature, °F:	284.1	285.8	190.7	253.5	
Sample Volume, DSCF	33.9	34.0	33.8	33.9	
Sample Volume, DSCM	0.96	0.96	0.96	0.96	
Stack flow rate, dscfm:	47,207	46,351	49,690	47,749	
PM_{10} grain loading, gr/dscf	*0.00011*	*0.00005*	*0.00005*	*0.00007*	
PM_{10} grain loading @ 12% CO_2 dry	*0.0002*	*0.0001*	*0.0001*	*0.0001*	
PM_{10}, mg/dscf	*0.19*	*0.05*	*0.05*	*0.10*	
PM_{10} mass emissions, lb/hr	*0.043*	*0.018*	*0.019*	*0.027*	
Condensable grain loading, gr/dscf	0.00077	0.00122	0.00014	0.00071	
Condensable grain loading @ 12% CO_2 dry	0.001	0.002	0.000	0.001	
Condensable, mg/dscf	1.77	1.53	0.32	1.21	
Condensable mass emissions, lb/hr	0.31	0.48	0.06	0.29	
Total grain loading, gr/dscf	*0.0009*	*0.00067*	*0.00019*	*0.00058*	
Total grain loading @ 12% CO_2 dry	*0.027*	*0.018*	*0.021*	*0.022*	
Total, mg/dscf	*2.0*	*1.58*	*0.38*	*1.3*	
Total mass emissions, lb/hr	***0.36***	***0.27***	***0.08***	***0.23***	**2.310**

Particulate Concentration (gr/DSCF) = mg/Vmstd x 0.01543 =
Particulate Emission Rate (lb/hr) = 0.00857 x gr/DSCF x DSCFM =
Particulate Emission (lb/ton of dried milk) = lb/hr / Milk processing rate, tons)

N-238-46-1

Ingredion, Inc.

Compliance Emissions Test Report #17112

One 7.3 MW Solar Turbines Taurus 70 Natural Gas Fired Turbine
Permit #s N-~~2386~~-46-1
Located at: N-238

Ingredion, Inc.
1021 Industrial Drive
Stockton, CA 95206

Performed and Reported by:

Blue Sky Environmental, Inc.
624 San Gabriel Avenue
Albany, CA 94706

Prepared For:

Ingredion, Inc.
1021 Industrial Drive
Stockton, CA 95206

For Submittal To:

Jessica Mohatt
San Joaquin Valley APCD
4800 Enterprise Way
Modesto, CA 95356

Testing Performed On:
April 18th and 19th, 2017

Final Report Submitted On:
May 30th, 2017

TABLE # 1

Ingredion, Inc.
7.3 MW Turbine
Steady State with Duct Burners

RUN	1	2	3	AVERAGE	LIMITS
Test Date	4/19/17	4/19/17	4/19/17		
Test Time	1027-1058	1134-1204	1245-1316		
Standard Temp., °F	60	60	60	70	
Fuel Flow Rate, DSCFM	2,911.0	2,899.3	2,857.9	2,905.2	
Exhaust Flow Rate, DSCFM (Method 2)	45,777	45,510	45,614	45,644	
Water Vapor, H_2O, %	14.3	13.6	14.1	14.0	
Oxygen, O_2, %	6.5	6.3	7.0	6.4	
Carbon Dioxide, CO_2, %	8.3	8.3	8.1	8.3	
Carbon Dioxide, lbs/hr	26,395	26,407	25,725	26,401	
NOx, ppm	4.3	4.8	3.6	4.5	
NOx, ppm @ 15% O_2	**1.8**	**1.9**	**1.5**	**1.8**	**2.5**
NOx, lbs/hr	**1.427**	**1.578**	**1.211**	**1.502**	**2.125**
CO, ppm	<2.0	<2.0	<2.0	<2.0	
CO, ppm @ 15% O_2	**<0.82**	**<0.81**	**<0.85**	**<0.81**	**6.00**
CO, lbs/hr	**<0.405**	**<0.403**	**<0.404**	**<0.404**	**3.095**
THC, ppm	1.2	2.6	1.1	1.9	
THC, lbs/hr as CH_4	0.14	0.30	0.13	0.22	
CH_4, ppm	0.7	1.6	0.6	1.2	
CH_4, lbs/hr	0.08	0.18	0.07	0.13	
VOC, ppm as CH4	<0.50	1.00	<0.50	<0.75	
VOC, ppm @ 3% O2	<0.62	1.2	<0.64	<0.93	
VOC, ppm @ 15% O2	**<0.20**	**0.4**	**<0.21**	**<0.30**	**2.0**
VOC, lbs/hr as CH4	**<0.06**	**0.12**	**<0.06**	**<0.09**	**0.601**
VOC, gm/BHp-hr as CH4	<0.01	0.02	<0.01	<0.01	
NH_3, ppm	4.90	4.80	2.60	4.10	
NH_3, ppm @ 15% O_2	**2.00**	**1.95**	**1.10**	**1.68**	**10**
NH_3, lbs/hr	**0.604**	**0.588**	**0.319**	**0.504**	**3.142**

WHERE,

ppm = Parts Per Million Concentration
Lbs/hr = Pound Per Hour Emission Rate
Tstd. = Standard Temp. (°R = °F+460)
MW = Molecular Weight
DSCFM = Dry Standard Cubic Feet Per Minute
NOx = Oxides of Nitrogen as NO_2 (MW = 46)
CO = Carbon Monoxide (MW = 28)
THC = Total Hydrocarbons as Methane (MW = 16)
VOC = Volatile Organic Compounds (MW = 16)

CALCULATIONS,

PPM @ 15% O_2 = ppm * 5.9 / (20.9 - %O_2)
PPM @ 3% O_2 = ppm * 17.9 / (20.9 - %O_2)
Lbs/hr = ppm x 8.223 E-05 x DSCFM x MW / Tstd. °R
Lbs/day = Lbs/hr * 24

BLUE SKY ENVIRONMENTAL, INC

TABLE #2
Particulate Matter <10 microns and Condensable Results Average
Ingredion, Inc.
Turbine Outlet
Permit #N-~~2386~~-46-1
2378

Test No:	1-PM10	2-PM10	3-PM10	Averages	Limits
Date:	4/19/17	4/19/17	4/19/17	--	
Time:	1027-1113	1240-1428	1448-1635	--	
O_2, % volume dry:	6.50	7.00	7.00	6.83	
CO_2, % volume dry:	8.30	8.10	8.10	8.17	
Moisture Content, % by volume:	13.09	13.04	13.68	13.27	
Stack Temperature, °F:	273.8	279.6	276.1	276.50	
Sample Volume, DSCFM	40.5	40.6	40.2	40.43	
Stack flow rate, dscfm:	45,777	45,510	45,614	45,634	
<PM10 grain loading, gr/dscf	0.0002	0.00032	0.0001	0.0002	
<PM10 grain loading @ 12% CO2	0.0002	0.0005	0.0001	0.0003	
<PM10 grain loading, mg/dscm	0.39	0.74	0.23	0.45	
<PM10 mass emissions, lb/hr	0.066	0.126	0.040	0.077	
Condensable PM grain loading, gr/dscf	0.0011	0.0005	0.0004	0.0007	
Condensable PM grain loading @ 12% CO2 dry	0.002	0.001	0.001	0.001	
Condensable, mg/dscm	2.56	1.13	0.47	1.39	
Condensable PM mass emissions, lb/hr	0.44	0.19	0.18	0.27	
Total grain loading, gr/dscf	0.016	0.010	0.012	0.013	
Total grain loading @ 12% CO2 dry	0.023	0.015	0.018	0.019	
Total grain loading, mg/dscm	36.87	23.37	26.63	28.96	
Total mass emissions, lb/hr	0.51	0.32	0.22	0.35	**2.310**

Ingredion, Inc.

Stockton, CA

RETEST

SOURCE TEST REPORT

190 MMBtu/hr Cleaver Brooks Turbine Duct Burner

Ammonia, NOx, CO & VOC Compliance Emissions

[Permit #N-238-46-1]

Test Dates: October 21, 2016

Report Date: November 3, 2016

Prepared for:

Ingredion Inc.
1021 Industrial Drive
Stockton, CA 95356
Attn: Roger Hoffdahl

Prepared by:

BEST ENVIRONMENTAL (BE)
339 Stealth Court
Livermore, CA 94551
Phone (925) 455-9474
Fax (925) 455-9479

For Submission to:

San Joaquin Valley Unified (SJVUAPCD)
4800 Enterprise Way
Modesto, CA 95356
Attn: Lori Sheridan

TABLE #1
Ingredion Inc.
NH_3, NOx & CO Emission Results
Duct Burner (N-238-46-1)
Normal Operation
RETEST

TEST	1	2	3	AVG	LIMIT
Test Location	Outlet	Outlet	Outlet		
Test Date	10/21/16	10/21/16	10/21/16		
Test Time	943-1014	1026-1059	1109-1141		
Standard Temp., °F	60	60	60		
Fuel Flow Rate, SCFH	132,435	129,989	135,345	132,590	
Flow Rate, DSCFM (M19)	46,955	47,801	46,970	47,242	
Boiler Load, MMBtu/hr (M19)	137.73	135.19	140.76	137.89	
Boiler Load, %	72.5%	71.2%	74.1%	72.6%	
O_2, %	12.14	12.45	11.95	12.18	
CO_2, %	5.05	4.86	5.14	5.02	
NH_3, ppm	9.67	12.64	13.39	11.90	
NH_3, ppm @ 15% O_2	6.51	8.82	8.82	**8.05**	**10.0**
NH_3, lbs/hr	1.220	1.624	1.691	**1.512**	**3.14**
NH_3, lbs/day	29.29	38.98	40.58	36.28	
NH_3, lbs/MMBtu	0.0088	0.0120	0.0120	0.0109	
NOx, ppm	2.32	2.31	2.36	2.33	
NOx, ppm @ 15% O_2	1.56	1.61	1.56	**1.58**	**2.5**
NOx, lbs/hr	0.793	0.803	0.808	**0.801**	**2.13**
NOx, lbs/day	19.04	19.27	19.39	19.23	
NOx, lbs/MMBtu	0.0057	0.0059	0.0057	0.0058	
CO, ppm	<0.30	<0.30	<0.30	<0.30	
CO, ppm @ 15% O_2	<0.20	<0.21	<0.20	**<0.20**	**6.0**
CO, lbs/hr	<0.062	<0.063	<0.062	**<0.063**	**3.095**
CO, lbs/day	<1.50	<1.52	<1.50	<1.51	
CO, lbs/MMBtu	<0.0005	<0.0005	<0.0004	<0.0005	
VOC, ppm	<0.50	<0.50	<0.50	<0.50	
VOC, ppm @ 15% O_2	<0.34	<0.35	<0.33	**<0.34**	**2.0**
VOC, lbs/hr	<0.059	<0.060	<0.059	**<0.060**	**0.601**
VOC, lbs/day	<1.43	<1.45	<1.43	<1.43	
TNMHC, lbs/MMBtu	<0.0004	<0.0004	<0.0004	<0.0004	

WHERE:

DSCFM = Dry Standard Cubic Feet Per Minute
ppm = Parts Per Million Concentration
MW = Molecular Weight
CO = Carbon Monoxide (MW = 28)
NOx = Oxides of Nitrogen as NO_2 (MW = 46)
NH_3 = Ammonia (MW = 17)
lbs/hr = pounds per hour emission rate
lbs/day = pounds per day emission rate
lbs/MMBtu = Pounds per million Btu emission factor

CALCULATIONS:

lbs/hr = ppm * DSCFM * MW *60 / 379 x 10^6
lbs/day = lbs/hr * 24
ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))
Fd = 8710

Ingredion, Inc.

Stockton, CA

SOURCE TEST REPORT
190 MMBtu/hr Cleaver Brooks Turbine Duct Burner
PM_{10}, Ammonia, NOx, CO & VOC Compliance Emissions &
NOx, CO & VOC Startup & Shutdown Emissions Test Results
[Permit #N-238-46-1]

Test Dates: August 11 & 12, 2016
Report Date: September 14, 2016

Prepared for:

Ingredion Inc.
1021 Industrial Drive
Stockton, CA 95356
Attn: Roger Hoffdahl

Prepared by:

BEST ENVIRONMENTAL (BE)
339 Stealth Court
Livermore, CA 94551
Phone (925) 455-9474
Fax (925) 455-9479

For Submission to:

San Joaquin Valley Unified (SJVUAPCD)
4800 Enterprise Way
Modesto, CA 95356
Attn: Lori Sheridan

TABLE #1
Ingredion Inc.
NH_3, NOx & CO Emission Results
Duct Burner (N-238-46-1)
Normal Operation

TEST	1	2	3	AVG	LIMIT
Test Location	Outlet	Outlet	Outlet		
Test Date	8/12/16	8/12/16	8/12/16		
Test Time	1143-1212	1234-1307	1326-1359		
Standard Temp., °F	60	60	60		
Fuel Flow Rate, SCFH	133,808	131,100	130,722	131,876	
Flow Rate, DSCFM (M19)	42,043	42,054	42,367	42,155	
Boiler Load, MMBtu/hr (M19)	139.16	136.34	135.95	137.15	
Boiler Load, %	73.2%	71.8%	71.6%	72.2%	
O_2, %	11.01	11.21	11.31	11.18	
CO_2, %	5.65	5.53	5.48	5.55	
NH_3, ppm	19.88	17.05	17.76	18.23	
NH_3, ppm @ 15% O_2	11.86	10.38	10.93	**11.06**	**10.0**
NH_3, lbs/hr	2.247	1.928	2.023	**2.066**	**3.14**
NH_3, lbs/day	53.93	46.26	48.56	49.58	
NH_3, lbs/MMBtu	0.0161	0.0141	0.0148	0.0150	
NOx, ppm	4.22	3.87	3.51	3.87	
NOx, ppm @ 15% O_2	2.52	2.36	2.16	**2.35**	**2.5**
NOx, lbs/hr	1.292	1.183	1.083	**1.186**	**2.13**
NOx, lbs/day	31.01	28.39	25.99	28.46	
NOx, lbs/MMBtu	0.0093	0.0087	0.0079	0.0086	
CO, ppm	<0.30	<0.30	<0.30	<0.30	
CO, ppm @ 15% O_2	<0.18	<0.18	<0.18	**<0.18**	**6.0**
CO, lbs/hr	<0.056	<0.056	<0.056	**<0.056**	**3.095**
CO, lbs/day	<1.34	<1.34	<1.35	<1.34	
CO, lbs/MMBtu	<0.0004	<0.0004	<0.0004	<0.0004	
VOC, ppm	<0.50	<0.50	<0.50	<0.50	
VOC, ppm @ 15% O_2	<0.30	<0.30	<0.31	**<0.30**	**2.0**
VOC, lbs/hr	<0.053	<0.053	<0.054	**<0.053**	**0.601**
VOC, lbs/day	<1.28	<1.28	<1.29	<1.28	
TNMHC, lbs/MMBtu	<0.0004	<0.0004	<0.0004	<0.0004	

WHERE:

DSCFM = Dry Standard Cubic Feet Per Minute
ppm = Parts Per Million Concentration
MW = Molecular Weight
CO = Carbon Monoxide (MW = 28)
NOx = Oxides of Nitrogen as NO_2 (MW = 46)
NH_3 = Ammonia
lbs/hr = pounds per hour emission rate
lbs/day = pounds per day emission rate
lbs/MMBtu = Pounds per million Btu emission factor

CALCULATIONS:

lbs/hr = ppm * DSCFM * MW *60 / 379 x 10^6
lbs/day = lbs/hr * 24
ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))
Fd = 8710

TABLE #2
Ingredion Inc.
NOx, CO & VOC Startup & Shutdown Emission Results
Duct Burner (N-238-46-1)

TEST	Shut-down	LIMIT	Start-up	LIMIT
Test Location	Outlet		Outlet	
Test Date	8/11/16		8/12/16	
Test Time	1527-1547		747-840	
Standard Temp., °F	60		60	
Fuel Flow Rate, SCFH	47,901		63,175	
Flow Rate, DSCFM (M19)	39,216		26,740	
Boiler Load, MMBtu/hr (M19)	42.86		32.78	
O_2, %	17.63		17.24	
NOx, ppm	0.39		4.29	
NOx, ppm @ 15% O_2	0.70		6.92	
NOx, lbs/hr	**0.110**	**28.126**	**0.835**	**29.125**
NOx, lbs/day	2.64		20.05	
NOx, lbs/MMBtu	0.0026		0.0254	
CO, ppm	0.66		1.08	
CO, ppm @ 15% O_2	1.19		1.75	
CO, lbs/hr	**0.115**	**463.22**	**0.128**	**427.52**
CO, lbs/day	2.75		3.08	
CO, lbs/MMBtu	0.0027		0.0039	
VOC, ppm	<0.50		<0.50	
VOC, ppm@ 15% O_2	<0.90		<0.81	
VOC, lbs/hr	**<0.050**	**24.774**	**<0.034**	**24.774**
VOC, lbs/day	<1.19		<0.81	
VOC, lbs/MMBtu	<0.0012		<0.0010	

WHERE:

DSCFM = Dry Standard Cubic Feet Per Minute
ppm = Parts Per Million Concentration
MW = Molecular Weight
CO = Carbon Monoxide (MW = 28)
NOx = Oxides of Nitrogen as NO_2 (MW = 46)
VOC = Volatile Organic Compounds as methane (MW = 16)
lbs/MMBtu = Pounds per million Btu emission factor

CALCULATIONS:

lbs/hr = ppm * DSCFM * MW *60 / 379 x 10^6
lbs/day = lbs/hr * 24
ppm @ 15% O_2 = ppm * 5.9 / (20.9-stack O_2)
lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))
Fd = 8710

TABLE #3

Ingredion Inc.
Duct Burner
PM_{10} Emissions Results
PTO #N-238-46-1
Normal Operation

RUN #	1	2	3	AVERAGE	LIMITS
TEST DATE	08/11/16	08/11/16	08/11/16		
TEST TIME	0759-0901	0948-1050	1127-1229		
GAS FLOW RATE, SCFH	107,690.4	103,833.1	93,818.8	101,780.8	
HEAT INPUT RATE, MMBtu/hr	112.0	108.0	97.6	105.9	
DUCT BURNER LOAD, %	58.9%	56.8%	51.4%	55.7%	
SAMPLE VOLUME (DSCF)	47.391	49.923	48.570	48.628	
ISOKINETIC (%)	97.8	101.1	99.8	99.6	
DUCT TEMP., (°F)	290.0	290.2	290.7	290.3	
VELOCITY (ft/sec)	66.23	68.11	67.27	67.20	
FLOW RATE (ACFM)	78,028	80,236	79,245	79,170	
FLOW RATE (DSCFM)	50,036	51,005	50,265	50,436	
H_2O (volume %)	7.19	7.97	8.11	7.76	
O_2 (volume %)	15.00	15.00	15.00	15.00	
CO_2 (volume %)	3.00	3.00	3.00	3.00	
F.H. Particulate Rinse Conc. (gr/DSCF)	0.0009	0.0006	0.0003	0.0006	
F.H. Particulate Rinse Emissions (Lbs/hr)	0.3965	0.2567	0.1437	0.2656	
F.H. Particulate Filter Conc. (gr/DSCF)	0.0002	0.0002	0.0002	0.0002	
F.H. Particulate Filter Emissions (Lbs/hr)	0.0698	0.0676	0.0684	0.0686	
Total F.H. Particulate Conc. (gr/DSCF)	0.0011	0.0007	0.0005	0.0008	
Total F.H. Particulate Emissions (Lbs/hr)	0.4663	0.3242	0.2121	0.3342	
Organic Particulate Conc. (gr/DSCF)	0.0002	0.0002	0.0002	0.0002	
Organic Particulate Emissions (Lbs/hr)	0.0768	0.0676	0.0684	0.0709	
Inorganic Particulate Conc. (gr/DSCF)	0.0011	0.0008	0.0007	0.0009	
Inorganic Particulate Emissions (Lbs/hr)	0.4915	0.3459	0.3148	0.3840	
Tot. Particulate Conc. (gr/DSCF)	**0.0024**	**0.0017**	**0.0014**	**0.0018**	
Tot. Particulate Emissions (Lbs/hr)	**1.0346**	**0.7376**	**0.5953**	**0.7892**	**2.310**
Tot. Particulate Emissions (Lbs/day)	**24.8296**	**17.7036**	**14.2873**	**18.9402**	
Tot. Particulate Emission Factor (Lbs/MMBtu)	**0.0092**	**0.0068**	**0.0061**	**0.0074**	

*** lbs/day is based on a 24 hour day.**

WHERE

DSCF = Sample Volume in Dry Standard Cubic Feet
ACFM = Actual Cubic Feet per Minute
DSCFM = Dry Standard Cubic Feet per Minute
H_2O, volume % = Stack gas percent water vapor
gr/DSCF = Particulate concentration in grains per DSCF
F.H. Particulate = Filterable Particulates
Organic Particulate = Condensible Organic Particulate (solvent extract)
Inorganic Particulate = Condensible Inorganic Particulate (Acids & Sulfates)
TPH = Tons per Hour
mg/dscm = miligrams per dry standard cubic meter
SCFH = Standard Cubic Feet Per Hour
MMBtu/hr = Million BTU Per Hour
BTU/CF = 1040

CALCULATIONS

Lbs/hr Emission Rate = 0.00857 * gr/DSCF * DSCFM
Lbs/day Emission Rate = lbs/hr * 24
Lbs/MMBtu = Lbs/hr / MMBtu/hr

Appendix IV
HAE Summary Sheet

Summary of Historical Actual Emissions (HAE)

Permit#	HAE (lb/yr)																							
	NOx				SOx				PM_{10}				$PM_{2.5}/PM_{10}$ Fraction	PM2.5				CO				VOC			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
N-238-1-5	--	--	--	--	--	--	--	--	23	54	59	36	0.171	4	9	10	6	--	--	--	--	--	--	--	--
N-238-2-3	--	--	--	--	--	--	--	--	39	85	90	57	0.171	7	15	15	10	--	--	--	--	--	--	--	--
N-238-8-3	--	--	--	--	--	--	--	--	25	48	54	34	0.171	4	8	9	6	--	--	--	--	--	--	--	--
N-238-9-5	--	--	--	--	--	--	--	--	1	2	2	1	0.171	0	0	0	0	--	--	--	--	--	--	--	--
N-238-10-10	240	432	384	288	3	5	5	4	2,056	4,179	3,763	3,033	0.289	594	1,208	1,088	877	17	31	27	20	28	50	44	33
N-238-13-7	--	--	--	--	23	52	55	34	492	1,115	1,182	731	0.168	83	187	199	123	--	--	--	--	370	837	887	549
N-238-14-3	--	--	--	--	--	--	--	--	12	26	28	17	0.168	2	4	5	3	--	--	--	--	--	--	--	--
N-238-15-3	--	--	--	--	--	--	--	--	88	199	211	131	0.168	15	33	35	22	--	--	--	--	--	--	--	--
N-238-16-3	--	--	--	--	--	--	--	--	0	1	1	1	0.286	0	0	0	0	--	--	--	--	--	--	--	--
N-238-17-5	--	--	--	--	--	--	--	--	0	0	0	0	0.286	0	0	0	0	--	--	--	--	--	--	--	--
N-238-18-10	287	511	574	546	117	208	234	222	271	482	541	515	1.000	271	482	541	515	328	584	656	624	86	153	172	164
N-238-19-7	--	--	--	--	--	--	--	--	0	0	0	0	0.000	0	0	0	0	--	--	--	--	--	--	--	--
N-238-25-5	--	--	--	--	125	283	309	190	--	--	--	--	0.000	--	--	--	--	--	--	--	--	1,787	4,037	4,410	2,710
N-238-29-4	--	--	--	--	31	65	71	43	--	--	--	--	0.000	--	--	--	--	--	--	--	--	--	--	--	--
N-238-24-7 & '-33-5	--	--	--	--	63	143	157	96	892	2,016	2,202	1,353	0.289	258	583	636	391	--	--	--	--	223	504	560	338
N-238-41-4	30	93	75	42	6	19	15	8	30	93	75	42	1.000	30	93	75	42	20	62	50	28	40	124	100	56
N-238-42-4	0	0	0	0	0	0	0	0	0	0	0	0	1.000	0	0	0	0	0	0	0	0	0	0	0	0
N-238-46-3	920	1,741	1,894	1,292	445	841	915	624	265	502	546	372	1.000	265	502	546	372	156	295	321	219	125	236	257	175
Total	**1,477**	**2,777**	**2,927**	**2,168**	**813**	**1,616**	**1,761**	**1,221**	**4,194**	**8,801**	**8,754**	**6,323**	--	**1,533**	**3,125**	**3,160**	**2,367**	**521**	**972**	**1,054**	**891**	**2,659**	**5,941**	**6,420**	**4,025**

Appendix V
Surrendered Permits to Operate

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

COPY

AUTHORITY TO CONSTRUCT

PERMIT NO: N-238-1-5 **ISSUANCE DATE:** 08/11/2011

LEGAL OWNER OR OPERATOR: CORN PRODUCTS INTERNATIONAL
MAILING ADDRESS: P O BOX 6129
STOCKTON, CA 95206-0129

LOCATION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
MODIFICATION OF CORN RECEIVING AND STORAGE OPERATION TO ADD A CORN DUST TRANSFER LINE SERVED BY A BALL CYCLONAIRE FILTER RECEIVER SUCH THAT THE EQUIPMENT DESCRIPTION BECOMES: CORN RECEIVING AND STORAGE OPERATION CONSISTING OF: RECEIVING PITS, VARIOUS CONVEYING EQUIPMENT, AND THREE HOPPERS ALL VENTED TO A CARTER-DAY MODEL 376-RF8 BAGHOUSE AND THREE STORAGE BINS EACH EQUIPPED WITH A BIN VENT FILTER. THE THIRD STORAGE SILO (#3) IS SERVED BY A DCL, INC. MODEL BV25-58-112A912Z-TO BAGHOUSE. MATERIAL COLLECTED BY THE CARTER-DAY MODEL 376-RF8 BAGHOUSE IS PNEUMATICALLY CONVEYED TO A BALL 58-FR-18 CYCLONAIRE FILTER RECEIVER AND RECYCLED BACK INTO THE CORN RECEIVING SYSTEM

CONDITIONS

1. 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. 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]
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Visible emissions from the exhaust of each baghouse, dust collector, and bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 4101]
5. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse, dust collector, or bin vent filter using each type of bag shall be maintained on the premises. [District NSR Rule] 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

DAVID WARNER, Director of Permit Services
N-238-1-5 Aug 11 2011 9:26AM – HARADERJ : Joint Inspection NOT Required

6. The cleaning frequency and duration for each baghouse, dust collector, and bin vent filter shall be adjusted to optimize the control efficiency based on the manufacturer's recommendation. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Material removed from the baghouses, dust collectors,and bin vent filters shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Particulate matter emissions from the Carter-Day baghouse, each of the bin vent filters, and from the DCL Inc. baghouse shall not exceed 0.002 grains/dscf. [District Rules 2201 and 4102]
9. Particulate matter emissions from the Ball Cyclonaire filter receiver shall not exceed 0.02 grains/dscf. [District Rules 2201 and 4102]
10. PM10 emissions from the corn unloading equipment shall not exceed 0.93 lb/hr. [District Rule 2201]
11. PM10 emissions from the loading of corn into silos 1, 2, and 3 shall not exceed 0.93 lb/hr. [District Rule 2201]
12. PM10 emissions from the transfer of corn via the transfer system served by the Cyclonaire filter receiver shall not exceed 0.088 lb/hr. [District Rule 2201]
13. The annual quantity of corn received shall not exceed 2,628,000 tons per year, based on a 12-month rolling period. [District Rule 2201] Federally Enforceable Through Title V Permit
14. PM10 emissions from the entire facility shall not exceed 200.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
15. The owner/operator shall check for visible emissions on a daily basis. If any particulate matter emissions are visible, the baghouse and bin vent filter shall be inspected for any tears, abrasions, or holes in the fabric. Any defective or damaged material shall be repaired or replaced. [District Rules 4201, 4202, 2520 Section 9.3.2 and 40 CFR part 64] Federally Enforceable Through Title V Permit
16. Visible emissions from each baghouse shall be evaluated using EPA Method 22 for a period of at least 6 minutes at least once during each day the baghouse is operated. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
17. Baghouse and bin vent filter shall be inspected at least quarterly when the unit is not in operation for tears, scuffs, abrasions or holes which might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.3.2 and 40 CFR part 64] Federally Enforceable Through Title V Permit
18. Each baghouse and the new filter receiver shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
19. The differential pressure gauge reading range for each baghouse and the filter receiver shall be established per manufacturer's recommendation at the time of the startup inspection. [District Rule 2201]
20. Differential operating pressure for each baghouse and the filter receiver shall be monitored and recorded on each day that the dust collector operates. [District Rule 2201]
21. Records of all maintenance of the baghouses, bin vents, and dust collectors, including all change out outs of filter media, shall be maintained. [District Rule 2201]
22. Records of the daily differential operating pressure readings shall be retained on-site. [District Rule 2201]
23. The permittee shall maintain records of the cumulative amount of corn received based on a 12-month rolling period. Records shall be updated at least once per month. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
24. Permittee shall keep records to adequately demonstrate compliance with the facility-wide daily emission limit. [District Rule 2201]
25. All records shall be retained for a minimum of five years and shall be made available for District inspection upon request. [District Rules 1070 and 2201]

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

COPY

AUTHORITY TO CONSTRUCT

PERMIT NO: N-238-2-3 **ISSUANCE DATE:** 08/11/2011

LEGAL OWNER OR OPERATOR: CORN PRODUCTS INTERNATIONAL
MAILING ADDRESS: P O BOX 6129
STOCKTON, CA 95206-0129

LOCATION: 1021 INDUSTRIAL DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
MODIFICATION OF CORN CLEANING OPERATION TO ADD A CORN SCALPER AND TO ADD SWEEP PULSING SYSTEMS TO THE EXISTING BAGHOUSES SUCH THAT THE EQUIPMENT BECOMES: CORN CLEANING OPERATION WITH: THREE DRAG CONVEYORS AND ONE ELEVATOR VENTED TO A BIN FILTER; A SCALPER AND ASPIRATED CORN CLEANER, TWO HOPPERS, AND VARIOUS CONVEYORS ALL VENTED TO A CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM; AND ONE CORN CLEANINGS HOPPER AND ONE CORN CLEANINGS SILO VENTED TO A SECOND CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM

CONDITIONS

1. 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. 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]
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Visible emissions from the exhaust of each baghouse, dust collector, and bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 4101]
5. Each baghouse and dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
6. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse using each type of bag shall be maintained on the premises. [District NSR Rule] 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

DAVID WARNER, Director of Permit Services
N-238-2-3 Aug 11 2011 9 27AM – HARADERJ : Joint Inspection NOT Required

7. The baghouse, dust collector, and bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency based on the manufacturer's recommendation. [District NSR Rule]
8. Material removed from the baghouses, dust collectosr, and bin vent filters shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Particulate matter emissions from each baghouse, dust collector, and bin vent filter shall not exceed 0.002 grains/dscf. [District Rules 2201 and 4102]
10. PM10 emissions from the corn transfer equipment (elevator and associated transfer equipment) shall not exceed 0.017 pounds in any one hour. [District Rule 2201]
11. PM10 emissions from the corn cleaning equipment, including the scalper, shall not exceed 0.213 pounds in any one hour. [District Rule 2201]
12. PM10 emissions from the corn cleaning silo shall not exceed 0.014 pounds in any one hour. [District Rule 2201]
13. PM10 emissions from the entire facility shall not exceed 200.0 pounds in any one day. [District Rule 2201]
14. Visible emissions from each baghouse, dust collector, and bin vent filter shall be checked quarterly. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted within 48 hours. [District Rule 2520, 9.3.2]
15. Each baghouse, dust collector, and bin vent filter shall be completely inspected annually while in operation for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. Baghouse, dust collector, and bin vent filters shall be thoroughly inspected annually for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
17. The differential pressure gauge reading range for each baghouse and dust collector shall be established per manufacturer's recommendation at the time of the startup inspection. [District Rule 2201]
18. Differential operating pressure for each baghouse and dust collector shall be monitored and recorded on each day that the baghouse or dust collector operates. [District Rule 2201]
19. Records of all maintenance of the baghouses, dust collectors, and bin vent filters, including all change out outs of filter media, shall be maintained. [District Rule 2201]
20. Records of the daily differential operating pressure readings shall be retained on-site. [District Rule 2201]
21. Permittee shall keep records to adequately demonstrate compliance with the facility-wide daily emission limit. [District Rule 2201]
22. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 1070 and 2201]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-8-3 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
GLUTEN MILLING, TRANSFER, AND STORAGE SERVED BY A CARTER-DAY DUST COLLECTOR, TYPE R-F

PERMIT UNIT REQUIREMENTS

1. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse using each type of bag shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency based on the manufacturer's recommendation. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Material removed from the dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions from the baghouse shall be no more than 0.002 grain/scf and 0.036 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Visible emissions from the baghouse shall be checked quarterly. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. Visible emissions from baghouse serving the gluten milling, transfer and storage shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. Dust collector system shall be completely inspected annually while in operation for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Dust collector filters shall be thoroughly inspected annually for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Records of quarterly checks of the pressure drop across the bags shall be maintained. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. Records of duct collector maintenance, inspections and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: N-238-9-5

ISSUANCE DATE: 06/11/2012

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 BULK GLUTEN LOADOUT SYSTEM WITH A STATIONARY HOOD AND A W.W. SLY MODEL XP-10 RETRACTABLE LOADING SPOUT SERVED BY AN ALANCO MODEL 378-RLP-FILTER BAGHOUSE:TO (1) ADD A CLEAN DRAWER MAGNET TO THE LOADOUT OPERATION, (2) REPLACE THE EXISTING RETRACTABLE LOADOUT SPOUT WITH A NEW FIXED LOADOUT SPOUT, (3) REMOVE THE DUST RETURN LINE FROM THE EXISTING BAGHOUSE, AND (4) INSTALL AN ENCLOSED COLLECTION HOPPER AND HAPMAN BULK BAG FILLING EQUIPMENT. POST-PROJECT EQUIPMENT DESCRIPTION: BULK GLUTEN LOADOUT SYSTEM WITH A LOADOUT SYSTEM SUPPLY CONVEYOR WITH A CLEAN DRAWER MAGNET, A STATIONARY HOOD AND A DSH SYSTEMS LTD FIXED LOADING SPOUT SERVED BY AN ALANCO MODEL 378-RLP-FILTER BAGHOUSE, AND AN ENCLOSED COLLECTION HOPPER WITH A HAPMAN BAG FILLER MATERIAL HANDLING SYSTEM

CONDITIONS

1. 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. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. Visible emissions from the baghouse serving the gluten meal loadout operation shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in one hour. [District NSR Rule] 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

DAVID WARNER, Director of Permit Services
N-238-9-5 : Jun 11 2012 11:25AM – HARADERJ : Joint Inspection NOT Required

5. Visible emissions from the baghouse shall be checked quarterly. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. Material removed from baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Replacement bags numbering at least 10% of the total number of bags in the baghouse using each type of bag shall be maintained on the premises. [District NSR Rule] Federally Enforceable Through Title V Permit
9. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District NSR Rule] Federally Enforceable Through Title V Permit
10. All ducting from the loading spout to the baghouse shall be properly maintained to prevent fugitive dust emissions. [District NSR Rule] Federally Enforceable Through Title V Permit
11. The quantity of material processed by the gluten meal loadout system shall not exceed 150 tons in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
12. The quantity of material processed by the bagging system shall not exceed 500 pounds in any one day. [District Rule 2201]
13. PM10 emissions from the gluten loadout system shall not exceed 0.004 pounds per ton of material processed. [District Rule 2201]
14. PM10 emissions from the bagging operation shall not exceed 0.0036 pounds per ton of material processed. [District Rule 2201]
15. The baghouse shall be completely inspected annually while in operation for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. The baghouse shall be thoroughly inspected annually for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
17. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location [District Rule 2201]
18. Differential operating pressure shall be monitored and recorded on each day that the baghouse operates. [District Rule 2201]
19. The differential pressure gauge reading range shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201]
20. Records of all baghouse maintenance, including all change outs of filter media, shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
21. Permittee shall keep daily records of the quantity of material processed by the gluten meal loadout system, in tons. [District Rule 2201]
22. Permittee shall keep daily records of the quantity of material processed by the bagging system, in pounds. [District Rule 2201]
23. 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 Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-10-10 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Exhaust from the turbine and heat recovery boiler unit permitted under N-238-18 may be vented to the starch dryer. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Emissions from the turbine and heat recovery boiler unit permitted under N-238-18 are not accounted for in the permitted emission limits for the starch dryer. [District Rule 2201] Federally Enforceable Through Title V Permit
4. NOx emissions from the starch dryer shall not exceed 4.3 ppmvd @ 19% O2 referenced as NO2. [District Rules 2201 and 4309] Federally Enforceable Through Title V Permit
5. CO emissions from the starch dryer shall not exceed 42 ppmvd @ 19% O2. [District Rules 2201 and 4309] Federally Enforceable Through Title V Permit
6. SOx emissions from the starch dryer burner shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
7. PM10 emissions from the starch dryer shall not exceed 0.24 pounds per ton of starch dried. [District Rule 2201] Federally Enforceable Through Title V Permit
8. No more than 320 tons of starch shall be dried in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. VOC emissions from the starch dryer shall not exceed 20 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Each scrubber shall be equipped with an operational differential pressure gauge to measure the pressure drop across the scrubber (i.e. outlet and inlet sections of the scrubber). [District Rule 2201, 40 CFR Part 64] Federally Enforceable Through Title V Permit
11. The differential pressure across each scrubber shall not exceed 10.0 inches of water column. Upon detecting any excursion, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 40 CFR Part 64] Federally Enforceable Through Title V Permit
12. Each scrubber liquid supply shall have an operational pressure gauge at the inlet to the scrubber. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The scrubber sprays and/or nozzles shall be maintained in optimum working condition and shall be inspected at least once every 12 months. A record of the date of inspection, identification of the equipment, identification of the individual performing the inspection, and any corrective action taken shall be maintained on site. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

14. Each scrubber shall be equipped with an operational liquid flow meter. [40 CFR Part 64] Federally Enforceable Through Title V Permit

15. For each scrubber, the liquid recirculation flow rate shall not be less than 83 gallons per minute (equivalent to 3 gpm/1,000 cfm for each fan rated at 27,500 cfm). Upon detecting any excursion, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2201, 40 CFR Part 64] Federally Enforceable Through Title V Permit

16. The starch dryer shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit

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

18. Source testing to measure NOx and CO emissions from the starch dryer shall be conducted at least once every twenty-four months for each exhaust stack. Source testing shall be conducted when the exhaust from the turbine and waste heat recovery boiler unit permitted under N-238-18 is not being vented to the starch dryer. [District Rules 2201 and 4309] Federally Enforceable Through Title V Permit

19. 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 Rule 4309] Federally Enforceable Through Title V Permit

20. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309] Federally Enforceable Through Title V Permit

21. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309] Federally Enforceable Through Title V Permit

22. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309] Federally Enforceable Through Title V Permit

23. 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

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

25. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications given in District Policy SSP-3005 (Emissions Monitoring for Rule 4309) or approved by the APCO. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309] Federally Enforceable Through Title V Permit

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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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 Rule 4309] Federally Enforceable Through Title V Permit

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

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

30. A daily log containing total hours of operation, type and quantity of fuel used and the amount of starch processed shall be kept on the premises, and shall be made available for District inspection upon request. [District Rules 2201 and 4309] Federally Enforceable Through Title V Permit

31. Sulfur compound emissions shall not exceed 0.2% by volume, 2,000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit

32. This unit shall be fired exclusively on PUC-quality natural gas which has a sulfur content of less than or equal to 0.017% by weight. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus County)] Federally Enforceable Through Title V Permit

33. Scrubber liquid recirculation rate (gpm) through each scrubber, and differential pressure across each scrubber (inches of water column) shall be observed and recorded at least once a day while the dryer is in operation. The records shall include date of inspection, identification of the equipment, identification of the individual performing the inspection, and the corrective action taken. [District Rule 2520, 9.4.2 and 40 CFR Part 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 for the scrubbers. [40 CFR Part 64] Federally Enforceable Through Title V Permit

35. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR Part 64.9 for the scrubbers. [40 CFR Part 64] Federally Enforceable Through Title V Permit

36. If the District or EPA determines per 40 CFR 64.7(d)(2) that a Quality Improvement Plan is required, the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit

37. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, 9.4.2 and 4309, and 40 CFR Part 64] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-13-7 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
ONE (1) GERM DRYER SERVED BY A CYCLONE, A DUCON TYPE L MODEL II PARTICULATE SCRUBBER, AND A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER.

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Each scrubber shall have an operational differential pressure gauge. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Each scrubber liquid supply (at inlet to scrubber) shall have an operational flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The scrubber sprays and/or nozzles shall be strictly maintained in optimum working condition. [District Rule 2201] Federally Enforceable Through Title V Permit
5. A minimum liquid to gas ratio of 4 gpm per 1,000 cfm shall be provided for each scrubber. Upon detecting any excursion, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2201 and 40 CFR part 64] Federally Enforceable Through Title V Permit
6. The emissions from this unit shall be ducted to the control devices at all times that the equipment is in operation except for SOx scrubber maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Except for SOx scrubber maintenance, the SOx emissions shall not exceed 0.50 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
8. VOC emissions shall not exceed 1.90 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
9. PM10 emissions shall not exceed 0.62 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The exhaust gases may be bypassed through the bypass duct after the particulate scrubber and prior to the SOx scrubber in the event of SOx scrubber maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The exhaust gases may be bypassed for a period not to exceed 200 hours per year for maintenance of the SOx scrubber. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
13. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

14. 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 Part 64] Federally Enforceable Through Title V Permit

15. Records shall be kept indicating the date and time and duration of time maintenance was performed such that the exhaust gases were bypassed from the SOx scrubber. [District Rule 2201] Federally Enforceable Through Title V Permit

16. Records of the SOx scrubber liquid flow rate shall be observed and recorded weekly during operation of this unit. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

17. Records of the PM10 particulate scrubber liquid flow rate shall be observed and recorded daily during operation of this unit. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2 and 40 CFR part 64] Federally Enforceable Through Title V Permit

18. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and District Rule 2520, 9.4.2 and 40 CFR part 64] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-14-3 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
GERM TRANSFER AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

PERMIT UNIT REQUIREMENTS

1. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse using each type of bag shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency based on the manufacturer's recommendation. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Material removed from the dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions from the baghouse shall be no more than 0.002 grains/scf and 0.043 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Visible emissions from the baghouse shall be checked quarterly. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. Visible emissions from baghouse serving the germ transfer and storage shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. Dust collector system shall be completely inspected annually while in operation for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Dust collector filters shall be thoroughly inspected annually for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Records of quarterly checks of the pressure drop across the bags shall be maintained. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Records of duct collector maintenance, inspections and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-15-3 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
BULK GERM LOADOUT

PERMIT UNIT REQUIREMENTS

1. See facility-wide permit N-238-0 for the requirements applicable to this permit unit. [District Rule 2080] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-16-3 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
FILTER-AID RECEIVING AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

PERMIT UNIT REQUIREMENTS

1. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse using each type of bag shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency based on the manufacturer's recommendation. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Material removed from the dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions from the baghouse shall be no more than 0.002 grain/scf and 0.01 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Visible emissions from the baghouse shall be checked quarterly. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. Visible emissions from baghouse serving the filter-aid receiving and storage shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. Dust collector system shall be completely inspected annually while in operation for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Dust collector filters shall be thoroughly inspected annually for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Records of quarterly checks of the pressure drop across the bags shall be maintained. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Records of duct collector maintenance, inspections and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-17-5 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
PNEUMATIC RECEIVING OF POWDER ACTIVATED CARBON MATERIAL INTO A SILO EQUIPPED WITH A CYCLONAIRE MODEL 58-FR-24 AARG II D FILTER RECEIVER/DUST COLLECTOR SYSTEM

PERMIT UNIT REQUIREMENTS

1. The dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Replacement bags numbering at least 10% of the total number of bags in the largest dust collector using each type of bag shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency based on the manufacturer's recommendation. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Material removed from the dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions from the dust collector shall not exceed either of the following limits: 0.1 grain/scf or 0.0028 lb/ton-carbon. [District Rules 2201 and 4201] Federally Enforceable Through Title V Permit
6. The maximum throughput for the carbon receiving operation shall not exceed 45 tons per day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Visible emissions from the dust collector shall be checked quarterly. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
8. Visible emissions from dust collector serving the carbon receiving and storage shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
9. Dust collector system shall be completely inspected annually while in operation for evidence of particulate matter leaks and repaired as needed. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
10. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. Dust collector filters shall be thoroughly inspected annually for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
12. Differential operating pressure for the baghouse shall be monitored and recorded at least one day per quarter in which it operates. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. Records of dust collector maintenance, inspections and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
14. Records of the date, amount of carbon transferred (tons/day) into the silo shall be maintained. [District Rule 1070 and 2520] Federally Enforceable Through Title V Permit
15. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 1070 and 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

COPY

PERMIT UNIT: N-238-18-10 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit
2. The water to fuel injection ratio shall be maintained at a minimum of 0.57 by weight. [District NSR Rule and District Rule 4703] Federally Enforceable Through Title V Permit
3. The permittee shall maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. [District Rule 4001 and District Rule 4703] Federally Enforceable Through Title V Permit
4. A flowmeter shall be operated at the water injection system's water inlet to the turbine. The flow meter shall be equipped with flow totalizer. [District Rule 2201and District Rule 4703] Federally Enforceable Through Title V Permit
5. The turbine shall only be fired on natural gas with a sulfur content not exceeding 1.0 grains of sulfur compounds (as S) per 100 dry standard cubic feet of natural gas fuel. [District Rule 2201, 40 CFR 60.333(a), and San Joaquin County Rule 407] Federally Enforceable Through Title V Permit
6. Emissions from the gas turbine shall not exceed any of the following limits: 120 ppmvd CO @15% O2; 0.0070 lb-PM10/MMbtu; 0.0021 lb-VOC/MMBtu (referenced as methane); and 0.00285 lb-SOx/MMBtu (referenced as SO2). The CO emission limit is based on a 3-hour average. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
7. Ammonia slip (NH3) emissions shall not exceed 5 ppmvd @ 15% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except during startup and shutdown periods, emissions from the gas turbine system shall not exceed 9 ppmvd NOx @ 15% O2. [District Rules 2201 and 4703, and 40 CFR 60.332(c)] Federally Enforceable Through Title V Permit
9. During startup and shutdown periods, emissions from the gas turbine system shall not exceed 35 ppmvd NOx @ 15% O2 once the turbine generator has reached operating speed. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
10. The duration of each startup and each shutdown shall not exceed 2 hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
11. The total combined duration of startups and shutdowns shall not exceed 8 hours in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its SCR operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown shall be defined as the period of time during which a unit is taken from an operational to non-operational status as the fuel supply to the unit is completely turned off. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
13. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown periods. [District Rule 4703] Federally Enforceable Through Title V Permit
14. Source testing to demonstrate compliance with the NOx, CO, and NH3 emission limits of the gas turbine system shall be conducted at least once every 12 months. Upon implementation of this permit, periodic source testing date shall be changed from September 21 to November 21 each year. Year 2015 test shall be conducted on or before November 21. [District Rule 4703] Federally Enforceable Through Title V Permit
15. 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
16. NOx emissions (referenced as NO2) shall be determined using EPA Method 7E, EPA Method 20 or CARB Method 100. [District Rules 1081 and 4703, 40 CFR 60.335(b)(1)] Federally Enforceable Through Title V Permit
17. CO emissions shall be determined using EPA Method 10, EPA Method 10B, or CARB Method 100. [District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
18. Oxygen content of the exhaust gas shall be determined using EPA Method 3, EPA Method 3A, EPA Method 20, or CARB Method 100. [District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
19. Ammonia (NH3) emissions shall be determined using BAAQMD Method ST-1B. [District Rules 1081, 2201, and 4102] Federally Enforceable Through Title V Permit
20. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
21. 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
22. If this unit is not fired on PUC-regulated natural gas, the sulfur content of each natural gas fuel source shall be tested weekly to determine compliance with the fuel sulfur content limit. Upon the completion of eight consecutive weekly tests that demonstrate compliance with the fuel sulfur content limit, the sulfur content testing may be conducted on a monthly schedule. If any test shows non-compliance with the fuel sulfur content limit while on a monthly testing schedule, the testing schedule shall return to weekly testing until eight consecutive weeks demonstrate compliance with the fuel sulfur content limit. [District Rule 2201 and 40 CFR 60.334(h)(3)] Federally Enforceable Through Title V Permit
23. If this unit is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 4084 or D 3246. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
24. If this unit is fired on PUC-regulated natural gas, then the owner or operator shall maintain copies of the natural gas bills on file. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. As soon as the catalyst temperature exceeds the minimum ammonia injection temperature recommended by the manufacturer, the ammonia injection rate into the SCR system shall not be less than 5.1 pounds per hour. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

26. If the ammonia injection rate is less than the minimum ammonia injection rate in this permit, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate in this permit as soon as possible, but no longer than eight hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate in this permit within eight hours, the permittee shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703] Federally Enforceable Through Title V Permit

27. The permittee shall monitor and record the stack concentration of NOx (as NO2), CO, and O2 weekly using a portable emissions monitor that meets District specifications. If compliance with the NOx and CO emissions is demonstrated for eight consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until eight consecutive weeks show no deviations. 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 one day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

28. If the NOx and/or CO concentrations, as measured by the permittee with a portable emissions monitor, exceed the permitted emission limits, the permittee shall notify the District and return the NOx and CO concentrations to the permitted emission limits as soon as possible but no longer than eight hours after detection. If the permittee's portable emission monitor readings continue to exceed the permitted emissions limits after eight hours, the permittee shall notify the District within the following one hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703] Federally Enforceable Through Title V Permit

29. Permittee shall determine and record the ammonia slip monthly using a draeger tube, or equivalent ammonia detection device. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

30. The owner or operator shall submit a report of NOx excess emissions and periods of monitor downtime to the APCO semi-annually, and this report shall be postmarked by the 30th day following the end of each 6-month period. [40 CFR 60.334(j)(5)] Federally Enforceable Through Title V Permit

31. NOx excess emissions shall be defined as any unit operating hour for which the average water to fuel injection rate, as measured by the continuous monitoring system, falls below the water to fuel ratio specified in this permit, including during startup and shutdown. NOx excess emissions shall also be defined as any 4-hour rolling unit operating hour in which the average ammonia injection rate falls below the minimum ammonia injection rate(s) specified in this permit, not including startup or shutdown. NOx monitor downtime shall be defined as any operating hour during which the water to fuel ratio or ammonia injection rate is either not recorded or is invalid. [40 CFR 60.334(j)(1)] Federally Enforceable Through Title V Permit

32. SOx excess shall be defined as each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the gas turbine exceeds the sulfur limit specified in this permit, and ends on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit. SOx monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime shall include only unit operating hours, and ends on the date and hour of the next valid sample. [40 CFR 60.334(j)(2)] Federally Enforceable Through Title V Permit

33. Permittee shall maintain daily records of the occurrence and duration of each startup or shutdown and the total cumulative duration of all startups and shutdowns. [District Rule 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

34. The owner or operator shall maintain a stationary gas turbine operating log that includes, on a daily basis, the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation, type and quantity of fuel used. [District Rule 4703 and 40 CFR 60.332(a) and (b)] Federally Enforceable Through Title V Permit

35. The owner or operator of the stationary gas turbine system shall maintain records of the following: (1) Water to fuel injection continuous monitoring system measurements, (2) Ammonia injection rate monitoring system measurements, and (3) Periodic NOx, CO, and O2 portable emissions monitor measurements. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

36. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2520 and 4703] Federally Enforceable Through Title V Permit

37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: San Joaquin County Rule 108.1 as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: San Joaquin Country Rule 407 as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b); District Rule 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-19-7 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
ONE 12,000 GALLON ABOVE GROUND SALT SLURRY STORAGE TANK

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Visible emissions from the sock filter serving the vent of the salt storage tank shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
3. A spare sock filter shall be kept on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The quantity of salt received shall not exceed 60,000 pounds during any one day and shall not exceed 120,000 pounds during any one month. [District Rule 2201] Federally Enforceable Through Title V Permit
5. PM10 emission rate shall not exceed 0.003 pounds per ton of salt received. [District Rule 2201] Federally Enforceable Through Title V Permit
6. A minimum of 7.7 gpm of water shall be added during transfer of the salt from the trucks to the storage tank. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The sock filter shall be thoroughly inspected annually for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. The permittee shall maintain a daily record of the date and quantity of salt received. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The permittee shall maintain records of the sock filter maintenance, inspections and repair. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-24-7 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
FIRST GRIND OVERFLOW TANK SERVED BY A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER AND A BIOTON MODEL 2-2-34 BIOFILTER (THE CONTROL EQUIPMENT ALSO SERVES N-238-33)

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Each scrubber shall have an operational differential pressure gauge. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Each scrubber liquid supply (at inlet to scrubber) shall have an operational flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The scrubber sprays and/or nozzles shall be strictly maintained in optimum working condition. [District Rule 2201 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
5. A minimum liquid to gas ratio of 4 gpm per 1,000 cfm shall be provided for each scrubber. [District Rule 2201 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
6. If the liquid to gas ratio of the scrubber is less than 4 gpm per 1,000 cfm during operation, the permittee shall correct the liquid to gas ratio to a minimum of 4 gpm per 1,000 cfm as soon as possible, but no longer than 1 hour of operation after detection. If the liquid to gas ratio continues to be less than 4 gpm per 1,000 cfm after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. [40 CFR Part 64] Federally Enforceable Through Title V Permit
7. The emissions from this unit shall be ducted to the control devices at all times that the equipment is in operation except for SOx scrubber and biofilter maintenance or a complete biofilter bed change out. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except for SOx scrubber and biofilter maintenance, or a complete biofilter bed change out, the combined SOx emissions from the equipment operating under Permits to Operate N-238-33 and N-238-24 shall not exceed 1.25 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Except for SOx scrubber and biofilter maintenance, or a complete biofilter bed change out, the combined VOC emissions from the equipment operating under Permits to Operate N-238-33 and N-238-24 shall not exceed 0.33 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The exhaust gases may be bypassed through the bypass duct prior to the SOx scrubber in the event of SOx scrubber or biofilter maintenance, or for complete biofilter bed change out. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The exhaust gases may be bypassed for a period not to exceed 200 hours per year for maintenance of the SOx scrubber or the biofilter. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The exhaust gases may be bypassed for a period not to exceed 340 hours per year for the complete biofilter bed change out. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-25-5 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
GLUTEN DEWATERING FILTER AND VACUUM SYSTEMS WITH A SOX SCRUBBER ON THE EXHAUST STREAM

PERMIT UNIT REQUIREMENTS

1. The scrubber sprays and/or nozzles shall be strictly maintained in optimum working condition. [District Rule 2201] Federally Enforceable Through Title V Permit
2. The pH of the scrubbing liquid shall be maintained at 6.5 or greater with a purge flow rate of 6.0 gallons per minute. A continuous monitoring device shall be installed and maintained to measure the pH of the scrubbing liquid. [District Rule 2201] Federally Enforceable Through Title V Permit
3. A minimum liquid to gas ratio of 17.7 gpm per 1,000 cfm shall be provided for this scrubber or the liquid recirculation rate shall be at least 230 gpm for sufficient contact. [District Rule 2201] Federally Enforceable Through Title V Permit
4. A liquid flow meter to monitor the liquid recirculation flow rate shall be installed and maintained in proper working order. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The SOx emissions shall not exceed 0.146 pounds per hour while the exhaust gases are passed through the SOx scrubber. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The SOx emissions shall not exceed 0.250 pounds per hour while the exhaust gases are bypassed from the SOx scrubber during scrubber maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The VOC emissions shall not exceed 2.083 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The exhaust gases may be bypassed around the SOx scrubber in the event of SOx scrubber maintenance for a period not to exceed 48 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Liquid flow meter shall be observed and recorded weekly during operation of this unit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Records shall be kept indicating the date and time and duration of time maintenance was performed such that the exhaust gases were bypassed around the SOx scrubber . [District Rule 2201] Federally Enforceable Through Title V Permit
11. Records of the SOx scrubber liquid flow rate shall be observed and recorded weekly during operation of this unit. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-29-4 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
SULFUROUS ACID PLANT CONSISTING OF: AN ELEMENTAL SULFUR BURNER AND TWO ABSORBERS VENTED TO A LUNDBERG SCRUBBER WITH A MIST ELIMINATOR; TWELVE STEEP TANKS (69,000 GAL. EACH) AND ONE DRAW TANK VENTED TO THE LINDBERG SCRUBBER SERVING THE ACID PLANT

PERMIT UNIT REQUIREMENTS

1. Scrubber sprays and/or nozzles shall be maintained in optimum working condition. [District Rule 2201] Federally Enforceable Through Title V Permit
2. The scrubber and the scrubber fluid shall be maintained such that the scrubber provides at least 99% control of the SO2 emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The mist eliminator shall be properly maintained and must be operating during the sulfurous acid production process. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The sulfur dioxide (SO2) emissions concentration shall not exceed 0.7 pounds per ton of elemental sulfur burned in the sulfur burner. [District Rule 2201] Federally Enforceable Through Title V Permit
5. No more than 6,000 pounds of elemental sulfur shall be burned in the sulfur burner during any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
7. Records of the daily amount of elemental sulfur burned shall be kept on the premises. Records shall be maintained for a period of at least five years and shall be made available for District inspection upon request. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-30-3 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
SODA ASH RECEIVING AND STORAGE WITH ONE (1) 60,000 GALLON STORAGE TANK SERVED BY A DUCON MULTIVANE WET SCRUBBER (TYPE L, SIZE 18).

PERMIT UNIT REQUIREMENTS

1. There shall be no visible emissions from the scrubber. [District Rule 2201] Federally Enforceable Through Title V Permit
2. The scrubber shall have operational differential pressure indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Scrubber sprays and/or nozzles shall be maintained in optimum working condition. [District Rule 2201] Federally Enforceable Through Title V Permit
4. All emissions from soda ash slurry storage tank shall be vented through the scrubber. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The PM10 emission concentration shall not exceed 0.002 lbs per ton of material received. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The maximum amount of material received shall not exceed 54 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Daily records of the amount of material received shall be maintained, retained on the premises for a minimum of five years, and made available for District inspection upon request. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. Records of the PM10 scrubber pressure differential shall be observed and recorded weekly during soda ash unloading. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-33-5 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
GLUTEN PROCESSING OPERATION CONSISTING OF GLUTEN DRYER (DAVENPORT MODEL RSTD), A GLUTEN CONDITIONER, AND ASSOCIATED CONVEYING SYSTEM. THE GLUTEN CONDITIONER IS VENTED TO THE GLUTEN DRYER WHICH IS SERVED BY A CYCLONE FOLLOWED BY A PARTICULATE MATTER SCRUBBER, A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER, AND A BIOTON MODEL 2-2-34 BIOFILTER (THE SOX & VOC CONTROLS ARE SHARED WITH PERMIT N-238-24)

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Each scrubber shall have an operational differential pressure gauge. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Each scrubber liquid supply (at inlet to scrubber) shall have an operational flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The scrubber sprays and/or nozzles shall be strictly maintained in optimum working condition. [District Rule 2201 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
5. A minimum liquid to gas ratio of 4 gpm per 1,000 cfm shall be provided for each scrubber. [District Rule 2201 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
6. If the liquid to gas ratio of the scrubber is less than 4 gpm per 1,000 cfm during operation, the permittee shall correct the liquid to gas ratio to a minimum of 4 gpm per 1,000 cfm as soon as possible, but no longer than 1 hour of operation after detection. If the liquid to gas ratio continues to be less than 4 gpm per 1,000 cfm after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. [40 CFR Part 64] Federally Enforceable Through Title V Permit
7. The emissions from this unit shall be ducted to the control devices at all times that the equipment is in operation except for SOx scrubber and biofilter maintenance or a complete biofilter bed change out. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except for SOx scrubber and biofilter maintenance, or a complete biofilter bed change out, the combined SOx emissions from the equipment operating under Permits to Operate N-238-33 and N-238-24 shall not exceed 1.25 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Except for SOx scrubber and biofilter maintenance, or a complete biofilter bed change out, the combined VOC emissions from the equipment operating under Permits to Operate N-238-33 and N-238-24 shall not exceed 0.33 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
10. PM10 emissions shall not exceed 1.04 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The exhaust gases may be bypassed through the bypass duct after the particulate scrubber and prior to the SOx scrubber in the event of SOx scrubber or biofilter maintenance, or for complete biofilter bed change out. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The exhaust gases may be bypassed for a period not to exceed 200 hours per year for maintenance of the SOx scrubber or the biofilter. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The exhaust gases may be bypassed for a period not to exceed 340 hours per year for the complete biofilter bed change out. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The District shall be notified of any breakdown conditions in accordance with Rule 1100 (Equipment Breakdown). [District Rule 1100]
15. During operation the biofilter temperature shall not exceed 110 degrees F and shall not be less than 60 degrees F. [40 CFR part 64] Federally Enforceable Through Title V Permit
16. The temperature of the air flow through the biofilter media shall be monitored daily during operation. [40 CFR part 64] Federally Enforceable Through Title V Permit
17. The temperature gauge (probe) monitoring the air flow through the biofilter media shall be maintained per manufacturer's recommendations. [40 CFR part 64] Federally Enforceable Through Title V Permit
18. Biofilter shall be thoroughly inspected annually for biofilter media deterioration and shall be replaced or repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. Records shall be kept indicating the date and time and duration of time maintenance was performed such that the exhaust gases were bypassed from the SOx scrubber and the biofilter or when a complete biofilter bed change out was performed. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Records of the SOx scrubber liquid flow rate shall be observed and recorded daily during operation of this unit. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
21. Records of the PM10 particulate scrubber liquid flow rate shall be observed and recorded daily during operation of this unit. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2 and 40 CFR part 64] Federally Enforceable Through Title V Permit
22. Records of the biofilter temperature shall be observed and recorded daily, during operation of this unit. The records shall include identification of the equipment, date of inspection, corrective action taken and identification of the individual performing the inspection. [District Rule 2520, 9.4.2 and 40 CFR part 64] Federally Enforceable Through Title V Permit
23. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7 for the scrubbers. [40 CFR Part 64] Federally Enforceable Through Title V Permit
24. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR Part 64.9 for the scrubbers. [40 CF Part 64] Federally Enforceable Through Title V Permit
25. If the District or EPA determines per 40 CFR 64.7(d)(2) that a Quality Improvement Plan is required, the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
26. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and District Rule 2520, 9.4.2 and 40 CFR part 64] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-41-4 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
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

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
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] 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. [District Rule 2201] 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 Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. 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
7. NOx emissions shall not exceed 7 ppmvd @ 3% O2 (0.008 lb/MMBtu) referenced as NO2. [District Rules 2201, 4301, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. CO emissions shall not exceed 50 ppmvd @ 3% O2 (0.037 lb/MMBtu). [District Rule 2201] Federally Enforceable Through Title V Permit
9. 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
10. PM10 emissions shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
11. SOx emissions shall not exceed 0.0029 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The total emissions from permit units N-238-41, '-42, '-44, '-45 and '-46 shall not exceed any of the following limits: NOx (as NO2): 131.0 lb/day, SOx: 15.8 lb/day, PM10: 55.4 lb/day, CO: 1,383.2 lb/day, VOC: 88.7 lb/day and NH3: 75.4 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The total emissions from permit units N-238-41, '-42, '-44, '-45 and '-46 shall not exceed any of the following limits: NOx (as NO2): 20,616 lb/yr, SOx: 5,767 lb/yr, PM10: 20,236 lb/yr, CO: 59,841 lb/yr, VOC: 7,119 lb/yr and NH3: 27,520 lb/yr. The annual limits are on 12 consecutive month rolling period basis. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

14. 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

15. 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

16. 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

17. 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

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. 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

21. 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

22. 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

23. 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

24. 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

25. 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

26. 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 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

27. 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 rate = {Ow - 20.9)/(Os - 20.9)} x 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

28. 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

29. 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

30. 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

31. 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

32. 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

33. 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

34. 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

35. 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

36. The owner or operator shall monitor and record the higher heating value (HHV) of the fuel combusted in this unit. The HHV shall be certified by thirty party fuel supplier or determined annually using ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 4351] Federally Enforceable Through Title V Permit

37. The owner or operator shall keep daily and monthly records of the natural gas usage for this unit. [District Rules 2201, 4305, 4306, 2520, 9.4.2 and 4351] Federally Enforceable Through Title V Permit

38. The owner or operator shall keep daily records of total emissions for each pollutant from permit units N-238-41, '-42, '-44, '-45 and '-46. [District Rule 2201] Federally Enforceable Through Title V Permit

39. The owner or operator shall maintain records of the cumulative annual use of the fuel combusted in this unit. [District Rule 4351] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

40. The owner or operator shall keep monthly records of the total emissions for each pollutant from permit units N-238-41, '-42, '-44, '-45 and '-46. These records shall be used to determine the total emissions for each pollutant during 12 consecutive month period on a rolling basis. [District Rule 2201] 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

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-42-3 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
4. 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
5. NOx emissions shall not exceed 7 ppmvd @ 3% O2 (0.008 lb/MMBtu) referenced as NO2. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
6. 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
7. SOx emissions shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
8. PM10 emissions shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
9. 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
10. 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
11. The total emissions from permit units N-238-41, '-42, '-44, '-45 and '-46 shall not exceed any of the following limits: NOx (as NO2): 131.0 lb/day, SOx: 15.8 lb/day, PM10: 55.4 lb/day, CO: 1,383.2 lb/day, VOC: 88.7 lb/day and NH3: 75.4 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The total emissions from permit units N-238-41, '-42, '-44, '-45 and '-46 shall not exceed any of the following limits: NOx (as NO2): 20,616 lb/yr, SOx: 5,767 lb/yr, PM10: 20,236 lb/yr, CO: 59,841 lb/yr, VOC: 7,119 lb/yr and NH3: 27,520 lb/yr. The annual limits are on 12 consecutive month rolling period basis. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. 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. The results of the initial test conducted under permit N-238-42-1 may be substituted instead of conducting a separate initial source test. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

14. 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

15. 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

16. 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

17. 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

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

19. 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

20. 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

21. 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

22. 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

23. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

24. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

25. 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
26. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 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
27. 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
28. The owner or operator shall maintain daily and monthly records of the type and quantity of the fuel combusted by the boiler. [District Rules 2201 and 4351, and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
29. The owner or operator shall monitor and record the higher heating value (HHV) of the fuel combusted in this unit. The HHV shall be certified by thirty party fuel supplier or determined annually using ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 4351] Federally Enforceable Through Title V Permit
30. The owner or operator shall keep daily records of total emissions for each pollutant from permit units N-238-41, '-42, '-44, '-45 and '-46. [District Rule 2201] Federally Enforceable Through Title V Permit
31. The owner or operator shall keep monthly records of the total emissions for each pollutant from permit units N-238-41, '-42, '-44, '-45 and '-46. These records shall be used to determine the total emissions for each pollutant during 12 consecutive month period on a rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit
32. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306 and 4320, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-238-46-3 **EXPIRATION DATE:** 03/31/2019

EQUIPMENT DESCRIPTION:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

PERMIT UNIT REQUIREMENTS

1. The exhaust sack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]
5. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]
6. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown period (except during the tuning/commissioning activities, unless the use of control equipment is required for any tuning activity). [District Rule 4703] Federally Enforceable Through Title V Permit
7. The owner or operator shall operate and maintain stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction (except during the tuning/commissioning activities, unless the use of control equipment is required for any tuning activity). [40 CFR 60.4333(a)] Federally Enforceable Through Title V Permit
8. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the CHP system shall be installed, utilized and maintained. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
9. The CHP system shall be fired on PUC quality natural gas with a sulfur content no greater than 1.0 grain of sulfur compounds (as S) per 100 dscf of natural gas. [District Rule 2201 and 40 CFR 60.4330(a)(2)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

10. The startup for the CHP system shall not exceed 1.0 hour/event, 4 events/day and 100 hours/year. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

11. The total startup emissions from the CHP system shall not exceed any of the following limits: NOx (as NO2): 14.563 lb/hr, SOx: 0.658 lb/hr, PM10: 2.31 lb/hr, CO: 213.76 lb/hr, and VOC: 12.387 lb/hr. and NH3: 3.142 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Startup is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. [District Rule 4703] Federally Enforceable Through Title V Permit

13. The shutdown for the CHP system shall not exceed 0.5 hour/event, 4 events/day and 50 hours/year. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

14. The total shutdown emissions from the CHP system shall not exceed any of the following limits: NOx (as NO2): 14.063 lb/hr, SOx: 0.658 lb/hr, PM10: 2.31 lb/hr, CO: 231.61 lb/hr, VOC: 13.287 lb/hr and NH3: 3.142 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

15. Shutdown is defined as the period of time during which a unit is taken from an operational state to a non-operational state as the fuel supply to the unit is completely turned off and the emissions control system is purged until all products of combustion are removed. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

16. Except during startup and shutdown, emissions from the CHP system shall not exceed any of the following limits: NOx (as NO2): 2.125 lb/hr and 2.5 ppmvd @ 15% O2, SOx: 0.658 lb/hr, PM10: 2.310 lb/hr, CO: 3.095 lb/hr and 6.0 ppmvd @ 15% O2, VOC: 0.601 lb/hr and 2.0 ppmvd @ 15% O2, and NH3: 3.142 lb/hr and 10.0 ppmvd @ 15% O2. All emission limits are based on 3-hour rolling averaging period. [District Rules 2201 and 4703 and 40 CFR Part 60.4320(a)] Federally Enforceable Through Title V Permit

17. Heat input rate to the CHP system (gas turbine and duct burner) shall not exceed 231 MMBtu per hour. [District Rule 2201 and 4102] Federally Enforceable Through Title V Permit

18. The total emissions from permit units N-238-41, '-42, '-44, '-45 and '-46 shall not exceed any of the following limits: NOx (as NO2): 131.0 lb/day, SOx: 15.8 lb/day, PM10: 55.4 lb/day, CO: 1,383.2 lb/day, VOC: 88.7 lb/day and NH3: 75.4 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

19. The total emissions from permit units N-238-41, '-42, '-44, '-45 and '-46 shall not exceed any of the following limits: NOx (as NO2): 20,616 lb/yr, SOx: 5,767 lb/yr, PM10: 20,236 lb/yr, CO: 59,841 lb/yr, VOC: 7,119 lb/yr and NH3: 27,520 lb/yr. The annual limits are on 12 consecutive month rolling period basis. [District Rule 2201] Federally Enforceable Through Title V Permit

20. The gas turbine system shall be equipped with an air inlet cooler and lube oil vent coalescer or equivalent technology sufficient to limit the visible emissions from the lube oil vents to not exceed 5% opacity, except for a period not exceeding three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit

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

22. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081] Federally Enforceable Through Title V Permit

23. Source testing to measure startup and shutdown NOx, CO, and VOC mass emission rates of the CHP system shall be conducted at least once every seven years thereafter. [District Rule 2201] Federally Enforceable Through Title V Permit

24. Source testing to determine compliance with the steady state NOx, CO, VOC, NH3 (lb/hr and ppmvd @ 15% O2) and PM10 (lb/hr) shall be conducted annually. If the duct burner operates intermittently, source testing shall be conducted both with the duct burner ON and OFF. [District Rules 2201 and 4703, 40 CFR 60.4400(a)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

25. The following test methods shall be used: NOx - EPA Method 7E or 20 or CARB Method 100; CO - EPA Method 10 or 10B or CARB Method 100; VOC - EPA Method 18 or 25; PM10 - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD ST-1B; and O2 - EPA Method 3, 3A, or 20 or CARB Method 100. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4703 and 40 CFR 60.4400(a)] Federally Enforceable Through Title V Permit

26. When valid purchase contracts, tariff sheets or transportation contracts showing the fuel sulfur content are not available, fuel sulfur content shall be monitored using one of the following methods: ASTM Methods D1072, D3246, D4084, D4468, D4810, D6228, D6667 or Gas Processors Association Standard 2377. [40 CFR 60.4415(a)(1)(i)] Federally Enforceable Through Title V Permit

27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60.4375(b)] Federally Enforceable Through Title V Permit

28. During all types of operations, including startup and shutdown periods, ammonia injection into the SCR system shall occur once the minimum temperature of 400 degrees Fahrenheit at the catalyst face has been reached to ensure NOx emission reductions can occur with a reasonable level of ammonia slip. [District Rule 2201] Federally Enforceable Through Title V Permit

29. The SCR system shall be equipped with a continuous temperature monitoring system to measure and record the temperature at the catalyst face. [District Rule 2201] Federally Enforceable Through Title V Permit

30. While operating gas turbine only, the minimum ammonia injection rate (AIR), pounds per hour, into the SCR system shall stay at or above the value calculated by the following equation: AIR (lb/hr) = 0.0006 X^2 - 0.0126 X + 3.4089 when X = 0% to 100% of gas turbine load. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

31. While operating duct burner only, the minimum ammonia injection rate (AIR), pounds per hour, into the SCR system shall stay at or above the value calculated by an applicable equation: AIR (lb/hr) = 0.0068 D^1.9007 lb/hr, when D = 20% to 50% of the 150 kcfh of duct burner; or AIR (lb/hr) = 0.305 D - 4.6833, where D = 60% to 80% of the 150 kcfh of duct burner, or AIR (lb/hr) = 21.5 lb/hr when fuel rate is 90% of the 150 kcfh of duct burner, or AIR (lb/hr) = 27.6 lb/hr when fuel rate is 100% of the 150 kcfh of duct burner. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

32. While operating both duct burner and gas turbine, the minimum ammonia injection rate (AIR) into the SCR system shall stay at or above the value calculated by applicable equation(s): AIR (lb/hr) = 0.003 D^2 + 0.0995D + 3.1357, when D = 20% to 80% of the 150 kcfh of the duct burner while turbine is operating at 50% load; or AIR (lb/hr) = 0.0015 D^2 + 0.1979D + 2.5679, when D = 20% to 90% of the 150 kcfh of duct burner while turbine operating at 65% load; or AIR (lb/hr) = 0.0008 D^2 + 0.2177D + 3.5857, when D = 20% to 100% of the 150 kcfh of duct burner while turbine operating at 80% load; or AIR (lb/hr) = 0.0004 D^2 + 0.2638D + 4.7438, when D = 20% to 100% of the 150 kcfh of duct burner while turbine operating at 100% load. The permittee may linearly interpolate AIR (lb/hr) between two data sets (determined by applicable equations from above within range) should the gas turbine load falls between the values for which these equations are established (e.g. gas turbine load 58%, AIR values estimated at 50% of gas turbine load, and 65% gas turbine load shall be used to generate the data set, which are then linearly interpolated at 58% gas turbine load). [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

33. The owner or operator shall monitor and record ammonia injection rate (pounds per hour) into the SCR system at least once every 15-minute period. This data shall be used to determine average ammonia injection rate over 1-hour period. The hourly data shall be averaged over 3-hour period on a rolling basis. The obtained value shall be compared with the minimum ammonia injection rate established in the permit to determine compliance with the NOx emission limit in this permit. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

34. If the ammonia injection rate is less than the minimum ammonia injection rate specified in the permit, the owner or operator shall return the ammonia injection rate above the minimum ammonia injection rate established as soon as possible, but no longer than eight hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate established during compliance testing within eight hours, the owner or operator shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the owner or operator may stipulate a violation has occurred, subject to enforcement action. The owner or operator must 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 owner or operator may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

35. The oxidation catalyst system shall be equipped with a continuous temperature monitoring system to measure the temperature at the catalyst face. [District Rule 2201] Federally Enforceable Through Title V Permit

36. The minimum temperature at the face of the oxidation catalyst shall stay at or above 500 degrees Fahrenheit. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

37. The owner or operator shall monitor and record temperature (°F) at the face of the oxidation catalyst at least once every 15-minute period. This data shall be used to determine the average temperature of the oxidation catalyst over a 1-hour period. The hourly data shall be averaged over 3-hour period on a rolling basis. The obtained value shall be compared with the minimum temperature established in the permit to determine compliance with the CO and VOC emission limits in this permit. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

38. If the temperature of the oxidation catalyst is below the minimum temperature specified in the permit, the owner or operator shall adjust CHP system controls to maintain the minimum temperature as soon as possible, but no longer than eight hours after detection. If the oxidation catalyst temperature is not returned above the minimum temperature established during compliance testing within eight hours, the owner or operator shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced oxidation catalyst temperature. In lieu of conducting a source test, the owner or operator may stipulate a violation has occurred, subject to enforcement action. The owner or operator must 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 owner or operator may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

39. NOx (as NO2), CO, O2 and NH3 emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, CO and O2 analyzer as well as the NH3 emission monitoring equipment shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

40. The owner or operator shall monitor and record the stack concentration of NOx (as NO2), CO, NH3 and O2 on a weekly basis. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH3 monitoring shall be conducted utilizing gas detection tubes (Draeger brand or District approved equivalent). If compliance with the NOx, CO and NH3 emissions is demonstrated for eight consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until eight consecutive weeks show no deviations. 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 one day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. Weekly or monthly monitoring is not required for the week or month in which source testing is performed. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

41. If either the NOx (as NO2), CO or NH3 concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, exceed the permitted levels the owner or operator shall return the emissions to compliant levels as soon as possible, but no longer than eight hours of operation after detection. If the portable analyzer or the ammonia monitoring equipment continue to show emission limit violations after eight hours of operation following detection, the owner or operator shall notify the District within the following one hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the owner or operator may stipulate a violation that is subject to enforcement action has occurred. The owner or operator must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the owner or operator may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

42. The sulfur content of each fuel source shall be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract, or (ii) monitored within 60 days of initial startup and weekly thereafter. If the sulfur content is less than or equal to 1.0 gr/100 dscf for eight consecutive weeks, then the monitoring frequency shall be every six months. If the result of any six month monitoring demonstrates that the fuel does not meet the fuel sulfur content limit, weekly monitoring shall resume until compliance is demonstrated for eight consecutive weeks. [District Rule 2201 and 40 CFR 60.4360, 60.4365(a) and 60.4370(c)] Federally Enforceable Through Title V Permit

43. The owner or operator shall keep hourly records of total heat input (MMBtu/hr) to the CHP system. [District Rule 2201] Federally Enforceable Through Title V Permit

44. The owner or operator shall keep daily records of total emissions for each pollutant from permit units N-238-41, '-42, '-44, '-45 and '-46. [District Rule 2201] Federally Enforceable Through Title V Permit

45. The owner or operator shall keep monthly records of the total emissions for each pollutant from permit units N-238-41, '-42, '-44, '-45 and '-46. These records shall be used to determine the total emissions for each pollutant during 12 consecutive month period on a rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit

46. The owner or operator shall keep records of the following items: (1) SCR system monitor: the date, time, catalyst face temperature and ammonia injection rate, (2) Oxidation catalyst system monitor: the date, time, catalyst face temperature. These records shall be used demonstrate compliance with the minimum SCR catalyst face temperature, minimum ammonia injection rate, and minimum oxidation catalyst face temperature in this permit. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

47. The owner or operator shall keep records of the following items: (1) the date and time of NOx, CO, NH3 and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, CO and NH3 concentrations corrected to 15% O2, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH3 emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

48. The owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local startup and stop time, length and reason for reduced load periods, total hours of operation, the type and quantity of fuel used, duration of start-up, and duration of shutdown. [District Rule 4703] Federally Enforceable Through Title V Permit

49. The owner or operator shall maintain all records of required monitoring data and support information for a period of five years from the date of data entry and shall make such records available to the District upon request. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

50. SOx excess emissions shall be defined as each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the gas turbine exceeds the sulfur limit specified in this permit, and ends on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit. [40 CFR 60.4385(a)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

51. SOx monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime shall include only unit operating hours, and ends on the date and hour of the next valid sample. [40 CFR 60.4385(b)] Federally Enforceable Through Title V Permit

52. NOx excess emissions shall be defined as any 3-hour rolling average ammonia injection rate (pounds per hour) falls below the minimum ammonia injection rate (lb/hr) specified in this permit, except during startup and shutdown. [District Rule 2201] Federally Enforceable Through Title V Permit

53. NOx monitor downtime shall be defined as any operating hour during which the ammonia injection rate is either not recorded or is invalid. [District Rule 2201] Federally Enforceable Through Title V Permit

54. The owner or operator shall submit a written report of unit's operation for 6-month period, with the first 6-month period starting from July 1, 2017 to December 31, 2017. The report is due on the 30th day following the end of the six-month period and shall include the following: Date, time intervals, data and magnitude of excess emissions, nature and the cause of excess (if known), corrective actions taken and preventive measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; Applicable time and date of each period during which the monitoring system(s) was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 2201] Federally Enforceable Through Title V Permit

Appendix VI
$PM_{2.5}/PM_{10}$ Calculations

$PM_{2.5}/PM_{10}$ Calculations

PM2.5/PM10 Fraction

N-238-1-5:

CORN RECEIVING AND STORAGE OPERATION CONSISTING OF: RECEIVING PITS, VARIOUS CONVEYING EQUIPMENT, AND THREE HOPPERS ALL VENTED TO A CARTER-DAY MODEL 376-RF8 BAGHOUSE AND THREE STORAGE BINS EACH EQUIPPED WITH A BIN VENT FILTER. THE THIRD STORAGE SILO (#3) IS SERVED BY A DCL, INC. MODEL BV25-58-112A912Z-TO BAGHOUSE. MATERIAL COLLECTED BY THE CARTER-DAY MODEL 376-RF8 BAGHOUSE IS PNEUMATICALLY CONVEYED TO A BALL 58-FR-18 CYCLONAIRE FILTER RECEIVER AND RECYCLED BACK INTO THE CORN RECEIVING SYSTEM.

Due to the unavailability of process specific emission factors, EPA's Table 9.9.1-1 (3/03), headhouse and grain handling (legs, conveyors, belts, distributor, scales, enclosed cleaners, etc.) will be used. PM2.5/PM10 fraction is 0.171 (0.0058/0.034).

N-238-2-3:

CORN CLEANING OPERATION WITH: THREE DRAG CONVEYORS AND ONE ELEVATOR VENTED TO A BIN FILTER; A SCALPER AND ASPIRATED CORN CLEANER, TWO HOPPERS, AND VARIOUS CONVEYORS ALL VENTED TO A CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM; AND ONE CORN CLEANINGS HOPPER AND ONE CORN CLEANINGS SILO VENTED TO A SECOND CARTER-DAY BAGHOUSE WITH A SWEEP PULSING SYSTEM

Due to the unavailability of process specific emission factors, EPA's Table 9.9.1-1 (3/03), headhouse and grain handling (legs, conveyors, belts, distributor, scales, enclosed cleaners, etc.) will be used. PM2.5/PM10 fraction is 0.171 (0.0058/0.034).

N-238-8-3:

GLUTEN MILLING, TRANSFER, AND STORAGE SERVED BY A CARTER-DAY DUST COLLECTOR, TYPE R-F

Due to the unavailability of process specific emission factors, EPA's Table 9.9.1-1 (3/03), headhouse and grain handling (legs, conveyors, belts, distributor, scales, enclosed cleaners, etc.) will be used. PM2.5/PM10 fraction is 0.171 (0.0058/0.034).

N-238-9-5:

BULK GLUTEN LOADOUT SYSTEM WITH A LOADOUT SYSTEM SUPPLY CONVEYOR WITH A CLEAN DRAWER MAGNET, A STATIONARY HOOD AND A DSH SYSTEMS LTD FIXED LOADING SPOUT SERVED BY AN ALANCO MODEL 378-RLP-FILTER BAGHOUSE, AND AN ENCLOSED COLLECTION HOPPER WITH A HAPMAN BAG FILLER MATERIAL HANDLING SYSTEM

Due to the unavailability of process specific emission factors, EPA's Table 9.9.1-1 (3/03), headhouse and grain handling (legs, conveyors, belts, distributor, scales, enclosed cleaners, etc.) will be used. PM2.5/PM10 fraction is 0.171 (0.0058/0.034).

N-238-10-10:
STARCH FLASH DRYER EQUIPPED WITH A 21 MMBTU/HR COEN QLN BURNER AND TWO STARCH RECOVERY CYCLONES SERVED BY TWO DUCON MULTIVANE GAS SCRUBBERS TYPE L MODEL II

Per SJVAPCD PM Size Fractions - Source: 2016 Ozone SIP Planning Inventory v1.01 worksheet, PM2.5/PM10 fraction for starch is 0.289 (0.0037/0.0128).

N-238-13-7:
ONE (1) GERM DRYER SERVED BY A CYCLONE, A DUCON TYPE L MODEL II PARTICULATE SCRUBBER, AND A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER.

Due to the unavailability of process specific emission factors, EPA's Table 9.9.1-1 (3/03), grain cleaning. PM2.5/PM10 fraction is 0.168 (0.0032/0.019).

N-238-14-3:
GERM TRANSFER AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

Due to the unavailability of process specific emission factors, EPA's Table 9.9.1-1 (3/03), grain cleaning. PM2.5/PM10 fraction is 0.168 (0.0032/0.019).

N-238-15-3:
BULK GERM LOADOUT

Due to the unavailability of process specific emission factors, EPA's Table 9.9.1-1 (3/03), grain cleaning. PM2.5/PM10 fraction is 0.168 (0.0032/0.019).

N-238-16-3:
FILTER-AID RECEIVING AND STORAGE SERVED BY A CARTER-DAY BAGHOUSE, TYPE R-F

Typically, diatomaceous earth is used as filter aid to remove suspended particles from liquid. PM2.5/PM10 fraction is 0.286 (0.052/0.217)[32].

[32]Data in Table 1 of article "The Global Variability of Diatomaceous Earth Toxicity: A Physicochemical and in Vitro Investigation"

N-238-17-5:
PNEUMATIC RECEIVING OF POWDER ACTIVATED CARBON MATERIAL INTO A SILO EQUIPPED WITH A CYCLONAIRE MODEL 58-FR-24 AARG II D FILTER RECEIVER/DUST COLLECTOR SYSTEM

PM2.5/PM10 is assumed to be 0.286, same as discussed under permit N-238-16-3.

N-238-18-10:
SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

Per SJVAPCD PM Size Fractions – Source; 2016 Ozone SIP Planning Inventory v1.01 worksheet, PM2.5/PM10 fraction is 1 for natural gas fired turbines under food and agricultural category (EIC 052-045-0110-0000).

N-238-19-7:
ONE 12,000 GALLON ABOVE GROUND SALT SLURRY STORAGE TANK

HAEs are zero for this permit unit. Therefore, PM2.5/PM10 fraction is not necessary.

N-238-24-7:
FIRST GRIND OVERFLOW TANK SERVED BY A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER AND A BIOTON MODEL 2-2-34 BIOFILTER (THE CONTROL EQUIPMENT ALSO SERVES N-238-33)

Refer to N-238-33.

N-238-25-5:
GLUTEN DEWATERING FILTER AND VACUUM SYSTEMS WITH A SOX SCRUBBER ON THE EXHAUST STREAM

This permit unit did not release any PM emissions. Therefore, no further discussion is required.

N-238-29-4:
SULFUROUS ACID PLANT CONSISTING OF: AN ELEMENTAL SULFUR BURNER AND TWO ABSORBERS VENTED TO A LUNDBERG SCRUBBER WITH A MIST ELIMINATOR; TWELVE STEEP TANKS (69,000 GAL. EACH) AND ONE DRAW TANK VENTED TO THE LINDBERG SCRUBBER SERVING THE ACID PLANT

This permit unit did not release any PM emissions. Therefore, no further discussion is required.

238-33-5:
GLUTEN PROCESSING OPERATION CONSISTING OF GLUTEN DRYER (DAVENPORT MODEL RSTD), A GLUTEN CONDITIONER, AND ASSOCIATED CONVEYING SYSTEM. THE GLUTEN CONDITIONER IS VENTED TO THE GLUTEN DRYER WHICH IS SERVED BY A CYCLONE FOLLOWED BY A PARTICULATE MATTER SCRUBBER, A PPC INDUSTRIES MODEL 616PFG SOX SCRUBBER, AND A BIOTON MODEL 2-2-34 BIOFILTER (THE SOX & VOC CONTROLS ARE SHARED WITH PERMIT N-238-24)

PM2.5/PM10 fraction is assumed to be 0.289 (0.0037/0.0128), similar to the starch dryer under permit N-238-10.

N-238-41-4:
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

Per SJVAPCD PM Size Fractions – Source; 2016 Ozone SIP Planning Inventory v1.01 worksheet, PM2.5/PM10 fraction is 1 for natural gas fired boilers under food and agricultural category (EIC 052-005-0110-0000).

N-238-42-4:
28.8 MMBTU/HR HURST MODEL S2X-G-650-250 BOILER WITH ALZETA MODEL CSB 22-2SO-30/30 BURNER SYSTEM

Per SJVAPCD PM Size Fractions – Source; 2016 Ozone SIP Planning Inventory v1.01 worksheet, PM2.5/PM10 fraction is 1 for natural gas fired boilers under food and agricultural category (EIC 052-005-0110-0000).

N-238-46-3:
7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

Per SJVAPCD PM Size Fractions – Source; 2016 Ozone SIP Planning Inventory v1.01 worksheet, PM2.5/PM10 fraction is 1 for natural gas fired turbines under food and agricultural category (EIC 052-045-0110-0000).

PM2.5 Emissions

Using above discussed PM2.5/PM10 fraction for each unit, PM2.5 emissions would be:

HAE PM2.5 = HAE PM10 x PM2.5/PM10 fraction

Permit #	PM10 (lb)				$PM_{2.5}/PM_{10}$ Fraction	PM2.5 (lb)			
	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4
N-238-1-5	23	54	59	36	0.171	4	9	10	6
N-238-2-3	39	85	90	57	0.171	7	15	15	10
N-238-8-3	25	48	54	34	0.171	4	8	9	6
N-238-9-5	1	2	2	1	0.171	0	0	0	0
N-238-10-10	2,056	4,179	3,763	3,033	0.289	594	1,208	1,088	877
N-238-13-7	492	1,115	1,182	731	0.168	83	187	199	123
N-238-14-3	12	26	28	17	0.168	2	4	5	3
N-238-15-3	88	199	211	131	0.168	15	33	35	22
N-238-16-3	0	1	1	1	0.286	0	0	0	0
N-238-17-5	0	0	0	0	0.286	0	0	0	0
N-238-18-10	271	482	541	515	1.000	271	482	541	515
N-238-19-7	0	0	0	0	0.000	0	0	0	0
N-238-25-5	--	--	--	--	0.000	--	--	--	--
N-238-29-4	--	--	--	--	0.000	--	--	--	--
N-238-24-7 & '-33-5	892	2,016	2,202	1,353	0.289	258	583	636	391
N-238-41-4	30	93	75	42	1.000	30	93	75	42
N-238-42-4	0	0	0	0	1.000	0	0	0	0
N-238-46-3	265	502	546	372	1.000	265	502	546	372
Total	**4,194**	**8,801**	**8,754**	**6,323**	--	**1,533**	**3,125**	**3,160**	**2,367**

Summary:
$PM_{2.5}/PM_{10}$ fraction that will be applied to quarterly emissions are estimated to the whole percentage point to be:

Q1: 37% (1,533/4,194)
Q2: 36% (3,125/8,802)
Q3: 36% (3,160/8,758)
Q4: 37% (2,367/6,323)

Appendix VII
Public Comments and District Responses

Comment #1 from CCEJN

While we appreciate the District's analysis regarding corn processing shifts, the conclusion that equivalent amounts of previously received corn will be shipped outside the SJV raises questions that we believe merit further examination and documentation.

Corn is a commodity, and the commodity market fluctuates both year over year and within the same year.

The District's logic assumes corn growers will export their product from the SJV despite local market alternatives. However, standard agricultural economic principles suggest growers make selling decisions based on net return after transportation costs. Given that numerous local buyers exist within the SJV, including mills and other processing facilities, we request the District provide data supporting the conclusion that local processing alternatives are unavailable or economically unviable for SJV corn growers.

The District suggests the Ingredion facility produces very unique products - "no other facilities in the SJV manufacture the types of products that were manufactured by Ingredion," ERC Banking Application Review page 1. First, ERCs are not issued because corn will no longer be processed into a starch in the SJV. They should be issued if the same amount of corn can be shown to not be associated with future emissions in the SJV. So the types of products produced by themselves are irrelevant. Second, if the District decides their logic is sound: (1) can you show the products Ingredion produced are in fact unique to only their facility in the SJV and (2) wouldn't the shipping emissions occurring in the SJV reduce the proposed emission reductions?

In order to be considered permanent, the District MUST show the amount of corn that previously went to Ingredion will not be associated with any future emissions. We request the District provide additional documentation demonstrating how the permanence requirement is met under these circumstance.

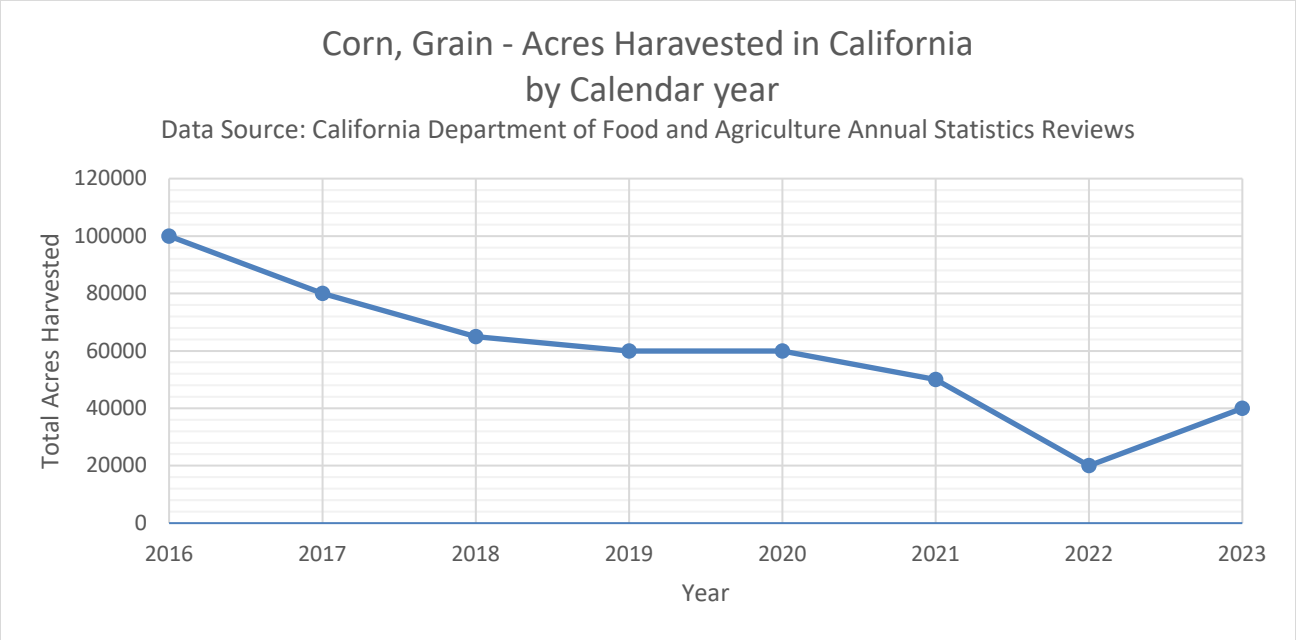
District Response to Comment #1

Ingredion Inc. processed grain corn to produce 42% and 55% high-fructose corn syrup for use as sweeteners in food and beverage products, as well as industrial-grade corn starch. No other facilities within the San Joaquin Valley Air Pollution Control District are permitted to manufacture corn syrup and corn starch through a wet-milling process. According to public statements issued by Ingredion, the Stockton facility was permanently shut down due to declining demand for sweeteners in North American beverage markets and rising production costs.

The agricultural economic principles cited by the commenter, and the conclusions drawn from them, are overgeneralized and do not accurately reflect the operational realities of this facility or regional grain corn markets. Ingredion Inc. did not rely exclusively on local growers for grain corn feedstock. In addition to sourcing corn locally, the company imported substantial quantities of grain corn into California. This is

demonstrated by the fact that in 2016 the Ingredion Stockton facility processed 378,587 tons of grain corn (Appendix II of the published ERC Evaluation), which exceeds the total grain corn harvested in the entire State of California that year—263,800 tons (California Department of Food and Agriculture, *California Agricultural Statistics Review 2016–2017*).

Furthermore, statewide data show that the number of acres of grain corn harvested in California decreased by approximately 60 percent between 2016 and 2023. These data do not support the assertion that local production expanded to replace the lost processing capacity. Rather, both imports and regional production declined following facility closure.



In addition, no other facilities within the District are permitted to conduct wet-milling operations of this type or scale. Existing grain handling or processing facilities do not have the permitted capacity or process configuration necessary to absorb the volume of grain corn previously processed at the Stockton facility. Any new wet-milling facility, or any existing facility seeking to expand operations to accommodate comparable throughput, would be required to obtain Authority to Construct permits and comply with New Source Review (NSR) requirements, including Best Available Control Technology (BACT) and emission offsets.

Under Rule 2301 and EPA's Emission Offset Interpretative Ruling (40 CFR Part 51, Appendix S), emission reductions used for offsets must be real, surplus, quantifiable, permanent, and federally enforceable. For shutdown reductions, permanence is demonstrated when the specific permitted emission units have permanently ceased operation and the reductions are secured in a manner that prevents resumption without NSR.

In this case, the wet-milling corn syrup operations and associated permitted emission units at the Stockton facility have permanently ceased operation. The units are no longer operating, and any future resumption would require new permitting subject to full NSR requirements. The ERC program evaluates permanence with respect to the permitted stationary-source emission units that generated the historical emissions. The standard does not require a showing that the underlying agricultural commodity will never again be associated with emissions elsewhere in the economy.

The commenter's argument appears to conflate permanence with broader economic "load shifting." EPA has recognized that load-shifting concerns may arise where small, inelastic-demand sources close and nearby facilities quickly increase activity, potentially recreating emissions within the same airshed. That circumstance is not present here. The Stockton facility was the only permitted wet-milling corn syrup operation in the District, and there is no evidence that another permitted stationary source within the District increased wet-milling production to replace the shutdown activity. Any new or expanded stationary-source emissions within the District would be subject to NSR requirements.

From an air quality program perspective, the relevant inquiry is whether emissions from permitted stationary sources within the San Joaquin Valley decreased as a result of the shutdown. The closure of the Stockton facility eliminated emissions from the affected wet-milling operations within the District. The available operational data, agricultural production statistics, and permitting framework demonstrate that the shutdown resulted in a verifiable and enforceable reduction of emissions from permitted stationary-source units within the San Joaquin Valley.

The emission reductions are real, permanent, quantifiable, surplus, and enforceable within the meaning of Rule 2301 and applicable EPA guidance. The District therefore disagrees with the commenter's assertion that the reductions lack permanence or represent impermissible load shifting.

Comment #2 from CCEJN

The District exceeded the processing timeframes provided in Section's 8.1 and 8.4 of District Rule 2301; therefore, we believe the ERC project did not comply with Rule 2301 and ERCs cannot be issued.

District Response to Comment #2:

The District disagrees with the assertion that exceeding the administrative processing timeframes in Sections 8.1 and 8.4 of Rule 2301 precludes issuance of Emission Reduction Credits (ERCs).

Sections 8.1 and 8.4 establish procedural timelines for (1) determining application completeness and (2) conducting an initial assessment and providing public notice

following acceptance of a complete application. These provisions are administrative in nature and are intended to promote orderly and timely processing of ERC applications.

Nothing in Rule 2301 states that the administrative processing deadlines are jurisdictional, nor does the rule provide that failure to meet those timelines results in automatic denial, forfeiture, loss of eligibility, or divestiture of the APCO's authority to issue ERCs. The rule contains no language indicating that administrative delay invalidates otherwise qualifying emission reductions.

Eligibility for ERC issuance is governed by Sections 4.0 through 6.0 of Rule 2301. To qualify for certification, emission reductions must be real, permanent, quantifiable, surplus, and enforceable, and the application must be filed in a timely manner pursuant to Sections 4.2.3 and 5.5. The project satisfies these substantive requirements.

While the District strives to adhere to internal processing timelines, those timelines function as administrative processing goals rather than mandatory conditions precedent to issuance. Because all substantive and procedural requirements of Rule 2301 have been satisfied, the timing of the District's review does not invalidate the application or prohibit issuance of ERCs.

Comment #3 from CCEJN

In every single instance in this application review when the District uses emission rates from EPA's AP-42 or generally accepted emission factors from District policies or internal documents, they are using assumptions and data not specific or applicable to the subject facility and its emissions when talking about actual emissions. An overestimated emission rate should not be used in calculations for ERCs, doing so produces an inaccurate result and issues ERCs on estimated and potential emissions - not actual emission reductions. If the District decides to proceed with issuing the proposed ERCs, all emission calculations must be based on actual emission information and testing completed for this facility (or a facility doing the exact same thing).

District Response to Comment #3:

The District disagrees with the commenter's characterization of generally accepted emission factors, such as those contained in EPA's AP-42. For the emission units at issue, no Continuous Emissions Monitoring (CEM) data, source test data, or manufacturer performance guarantees were available to directly quantify emissions. While such data sources are often considered more precise than generally accepted emission factors, AP-42 factors remain an accepted and reliable method for estimating actual emissions, for the following reasons.

First, the emission factors published in EPA's AP-42 are developed and compiled using source test data, material balance analyses, and engineering estimates. Second, EPA finalizes AP-42 emission factors only after completion of a robust public review and comment process. Third, the District has no basis to conclude that the AP-42 emission

factors cited in this evaluation overestimate actual emissions. The emission factors used correspond to the specific process type and control configuration applicable to the affected units. Finally, the District did not rely on "potential emissions" to determine the quantity of Emission Reduction Credits (ERCs) eligible for banking. Where AP-42 factors were used, they were applied in conjunction with actual production rates during the baseline period to calculate actual emissions from the affected units.

In addition, where alternative calculation methodologies were available, the District selected approaches that avoid overstating historical actual emissions. Verified baseline production data were used rather than maximum design capacity, and no adjustments were made that would inflate emission estimates beyond what is supported by the record. Accordingly, the methodology used to quantify historical actual emissions is consistent with accepted regulatory practice and does not result in overstatement of bankable ERC quantities.

Comment #4 from CCEJN

Gaps in information or lack of access to the necessary information can lead to assumptions being made in historical actual emission calculations. Similar to the above, in air permitting, the District makes assumptions knowing they are overestimating emissions for permitting purposes. However, in ERCs, this cannot be done. The District must have documented information ensuring all emission reductions are accurate because these emission reductions are going to allow future, new emissions. If the District does not have the necessary information to ensure HAE are true and accurate, either those proposed emissions reductions cannot be approved, or the District must pursue an assumption pathway that is conservative enough to guarantee the actual reduced emissions are greater than they are calculating.

ERCs are not a right. A company has to be held accountable to have obtained and saved all the necessary documentation to prove everything, every step of the way. The District's ERC program cannot allow for ERCs to be issued in error. We believe every HAE calculation in this evaluation with the word assumed or using undocumented assumptions must be redone with justified and documented numbers - or those proposed emission reductions should be discarded.

District Response to Comment #4

With respect to the assumptions referenced in this comment, three of the formerly permitted operations were subject only to lb/hr emission limits derived from actual source test data at this facility, and no additional emissions data are available for these units. Although the information is presented differently in the ERC application review, the District effectively determined the highest continuous throughput rate (tons/hour) for each emission unit and used that value to convert the measured lb/hr emission values into lb/ton emission factors. This methodology intentionally yields the lowest possible lb/ton emission factor for each unit. These conservatively low emission factors were

then applied to the actual quarterly production rates to calculate the historical actual emissions (HAE).

The lb/hr emission limits relied upon were derived from documented source test data conducted at this facility and incorporated into enforceable permit conditions. The production throughput data used in the calculations were obtained from facility operational records submitted to the District. Accordingly, the calculations are based on documented, facility-specific data and not on unsupported or speculative assumptions.

This methodology results in the lowest reasonable estimate of bankable emissions for each emission unit. By contrast, the 2017 and 2018 emission inventories relied solely on reported hours of operation and the same lb/hr emission limits to estimate actual emissions. Application of that methodology would produce substantially higher emissions estimates—specifically, 184% higher SO_x emissions, 139% higher PM_{10} emissions, and 170% higher VOC emissions—than the methodology used by the District to determine HAE in the published ERC application review.

The District recognizes that ERCs must be supported by accurate and documented emission data. Where direct unit-specific emission rates were not available in lb/ton format, the District applied a conversion methodology using documented source test–based emission limits and verified production data. This approach is conservative and ensures that banked emission reductions do not exceed what can be substantiated by the record.

The ERC evaluation has been revised to more clearly present and document the assumptions, methodology, and calculations used to quantify the Historical Actual Emissions (HAE) for these units.

Comment #5 from CCEJN

Included source tests do not match the permit unit being surrendered. Since the necessary permitting records necessary to understand what happened to the equipment after the source test are not included, we believe the District must provide an explanation when the source test used differs from the permit unit surrendered. If modifications occurred after the source test that impacted emissions, then the earlier source test would no longer be applicable or accurate for the permit surrendered. As an example, if permit unit ‘-13-4 installed new control equipment that was more efficient, the emission rates for the source test completed on ‘-13-3 would no longer be accurate. We would like to know what the permit modifications between the source test and permit being surrendered were and if those modifications impacted emissions for the following permits:

Permit unit ‘-13-7 is using a source test for ‘-13-3.
Permit unit ‘-33-5 is using a source test for ‘-33-3
Permit unit ‘-42-3 is using a source test for ‘-42-0

District Response to Comment #5:

With regard to permit unit ’13, only initial source testing was required and that testing was performed under permit N-238-13-3. Since the time of the initial source test, the only modification to the permit was a change to the permit conditions to allow the exhaust to bypass the SOx scrubber for up to 200 hours per year while the facility performs scrubber maintenance. This modification didn’t affect steady state emissions and emissions during scrubber maintenance bypass periods were not included in determining the Historical Actual Emissions for this permit unit.

With regard to permit unit ’33, only initial source testing was required and that testing was performed under permit N-238-33-3. No modifications to the equipment were authorized between the time testing was performed for unit ‘33-3 and the issuance of the current permit, N-238-33-5. The permit numbers were indexed during Title V permit renewals and did not reflect any physical changes to this permit unit.

With regard to unit ‘-42, testing was last performed under permit N-238-42-0. Since the time of testing, the District issued an ATC to establish combined daily annual heat input limits for units N-238-41, ‘-42, ‘-44, and ‘-45. The District issued a second ATC to add unit N-238-46 to this group, and to re-establish the combined daily and annual limits. No changes to the permitted equipment were authorized in either of these modifications for permit unit ‘-42.

Comment #6 from CCEJN:

Permit Unit ‘-10-10: The application review says source testing was not conducted during the baseline period but was conducted on October 26, 2016. However, its permit says source testing is to be conducted every 24 months, which would mean source testing was required to be conducted before October 26, 2018 - which is within the baseline period. Since the facility did not shut down until December 2018, source testing should have occurred or the facility would have been in violation of their permit.

Permit Unit ‘18-10: The permit requires source testing every twelve months. Why does the application review say source testing was not conducted in 2018 or 2019?

Permit Unit ‘-42-3: The permit requires source testing every 12 months and then after 2 successful source tests the period can be extended to 36 months. Assuming 2 successful source tests with the included source test occurring July 15, 2014, the next source test was required to be completed by July 15, 2017. Why was this source testing not included or completed?

District Response to Comment #6:

District Compliance Policy COM-2030 (*Source Test Guidelines*) requires periodic source testing to be conducted within a 60-day window, no more than 30 days before or after the required test date.

For Unit N-238-10-10, the required source test date is October 14 of every other year. Applying the 30-day window, testing would have been required by November 13, 2018. However, this unit was permanently removed from service prior to that date, and source testing was therefore not conducted. The District determined that testing was no longer required due to the unit's shutdown.

Unit N-238-18-10 was also removed from service on November 8, 2018. The required source test date for this unit was November 21, 2018 of each year. Because the unit was shut down prior to the required test date, source testing was not performed, and the District similarly determined that testing was no longer required.

Unit N-238-42-3 is a portable rental unit that the facility had planned to bring on-site annually. The unit was removed from the site in 2015 and was never returned, which is why it was not tested after 2014. As documented in the Historical Actual Emissions (HAE) calculations section of the ERC application review, the HAE for this unit was calculated as zero; therefore, no ERCs are proposed to be banked from this unit. Although removed from service earlier, permit unit N-238-42 was included in the ERC application review to fully demonstrate that the facility did not exceed the shared daily and annual emission limits applicable to units N-238-41, N-238-42, N-238-44, and N-238-45.

Finally, the ERC application was submitted within 180 days of November 8, 2018, the shutdown date of Units N-238-10-10 and N-238-18-10. Accordingly, the application meets the submittal timeframe requirements applicable to these units.

Comment #7 from CCEJN:

Why are Authority to Construct (ATC) permits included in Appendix V, Surrendered Permits to Operate (PTOs). Shouldn't the facility's actual PTOs be included here? We believe the PTOs for the surrendered permit units must be included (not ATC permits that may have changed or never been implemented) to ensure the information listed in the application review is on the permits applicable at the time the facility was shut down and permits were surrendered.

District Response to Comment #7:

Appendix V included Authority to Construct (ATC) permits N-238-1-5, '-2-3, and '-9-5 in lieu of Permits to Operate.

The referenced ATCs reflect modifications that were constructed and implemented. Following startup, the District conducted inspections to verify compliance with permit conditions. Under District rules and permitting procedures, once an ATC-authorized

modification is implemented, the conditions of the ATC govern operation until administrative incorporation into a Title V permit or PTO update occurs.

The incorporation of ATC conditions into a Title V permit is an administrative action and does not alter the enforceability of those conditions during operation. The District confirmed that the applicable permit conditions governing the emission units during the historical actual emissions period are accurately reflected in the ERC evaluation.

Comment #8 from CCEJN:

For ERC purposes, general EPA PM2.5 to PM10 ratios that are intended to be used in air permitting to calculate the potential emissions should not be used to issue ERC credits. As addressed above, ERCs are for actual emission reductions, so accurate PM speciation for the operation in question is needed to accurately account for PM2.5 actual emission reductions. If the facility did not get source testing to determine actual ratios, no PM2.5 ERC portion should be issued.

District Response to Comment #8:

The commenter asserts that the PM2.5-to-PM10 speciation ratio used in the ERC analysis may overestimate PM2.5 emissions.

In the absence of site-specific PM2.5 testing data, the District relied on EPA and CARB-approved PM2.5/PM10 speciation factors derived from extensive source testing and emissions characterization data for relevant source categories. These factors are widely used by regulatory agencies for emissions inventories, regulatory analyses, and emissions quantifications, and are not limited to only calculating potential emissions.

The District applied these factors to the PM10 historical actual emissions derived from verified operational data, not potential emissions. Where discretion existed, the District selected speciation factors that are representative of the applicable source category and that do not overstate bankable PM2.5 reductions. This approach is consistent with accepted regulatory practice and reflects the best available information in the absence of site-specific PM2.5 test data.