San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

OCT 14 2014

Richard Gilton
Gilton Resource Recovery
818 McCloy Rd
Stockton, CA 95351

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-8734
Project Number: N-1131319

Dear Mr. Gilton:

Enclosed for your review and comment is the District's analysis of Gilton Resource Recovery's application for an Authority to Construct for the installation of a natural gas-fired vegetable-waste dryer, at 818 McCloy Road in Stockton, CA.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. James Harader of Permit Services at (209) 557- 6445.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:JH

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

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Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct

Food Waste Drying and Pasteurization Operation

Facility Name:	Gilton Resource Recovery	Date:	October 8, 2014
Mailing Address:	818 McCloy Road Stockton, CA 95351	Engineer:	James Harader
		Lead Engineer:	Nick Peirce
Contact Person:	Richard Gilton		
Telephone:	(209) 527-0709		
Application #:	N-8734-1-1		
Project #:	N-1131319		
Deemed Complete:	May 24, 2014		

I. PROPOSAL

Gilton Resource Recovery is proposing to install a food waste drying and pasteurization operation with a 19.9 MMBtu/hr rotary dryer. The equipment will be installed at an existing Gilton Resources Recovery site that currently processes food waste. An Authority to Construct (ATC), N-8734-1-0, was previously issued for this equipment; however, source testing has demonstrated that the dryer cannot meet the CO limit listed on ATC N-8734-1-0. Therefore, the applicant is proposing to increase the CO limit to 42 ppmvd @ 19% O_2. Additionally, the applicant was issued an Authority to Construct, N-8734-1-2, to add a grinder to the drying operation. Both Authority to Construct N-8734-1-2 and Authority to Construct N-8734-1-0 will be cancelled and replaced by this Authority to Construct, N-8734-1-1. The following condition will be included on the Authority to Construct permit:

- *Authorities to Construct N-8734-1-0 and N-8734-1-2 shall be cancelled upon the implementation of this Authority to Construct into a Permit to Operate. [District Rule 2201]*

II. APPLICABLE RULES

District Rule 2201	New and Modified Stationary Source Review Rule (4/21/05)
District Rule 2410	Prevention of Significant Deterioration (6/16/11)
District Rule 2520	Federally Mandated Operating Permits (6/21/01)
District Rule 4001	New Source Performance Standards (4/14/99)
District Rule 4002	National Emission Standards for Hazardous Air Pollutants (12/15/05)
District Rule 4101	Visible Emissions (2/17/05)
District Rule 4102	Nuisance (12/17/92)
District Rule 4201	Particulate Matter Concentration (12/17/92)
District Rule 4202	Particulate Matter – Emission Rate (12/17/92)
District Rule 4301	Fuel Burning Equipment (12/17/92)
District Rule 4309	Dryers, Dehydrators, and Ovens (12/15/2005)
District Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment

CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. PROJECT LOCATION

This equipment will be located at 818 McCloy Road in Stockton, CA. The District has verified that this equipment will not be located within 1000' of a K-12 school. Therefore, the public notification requirements of California Health and Safety Code 42301.6 are not applicable to this project.

IV. PROCESS DESCRIPTION

Currently, pasteurizing and drying of food waste is conducted at this site using solar energy from the sun. This proposal is to install a food waste drying and pasteurizing line. The drying and pasteurizing of food waste will be achieved using a natural gas-fired rotary dryer. The dryer will reduce the moisture content of the proposed food waste from the initial value of 45% by weight to a final moisture content of 10% by weight. The drying and pasteurization will be accomplished in one-pass. During the drying phase, the temperature will be raised to a desired level for a set period of time so that reasonable elimination of pathogens, also referred to as pasteurization, is achieved. The product is shipped off-site and used as an animal feed additive. Emissions result from the combustion that takes place in the dryer. Additionally, this drying operation includes a grinder where the product is ground and conveyed into enclosed storage bins or totes. Particulate emissions are emitted by the grinding operation.

A maximum of 480 tons/day of material will be processed by the drying operation.

A process flow diagram is included in Appendix II.

V. EQUIPMENT LISTING

N-8734-1-1: FOOD WASTE DRYING AND PASTEURIZATION OPERATION CONSISTING OF A 19.9 MMBTU/HR NATURAL GAS-FIRED BAKER RULLMAN MODEL SC90-30 ROTARY DRYER WITH A CYCLONE, a BLISS MODEL 4820TF GRINDER VENTED TO A MAC MODEL 96AVR80 BAGHOUSE, ASSOCIATED HOPPERS, AND CONVEYING EQUIPMENT

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

Rotary Dryer

The rotary dryer will be equipped with a Low-NO_x burner. Low-NOx burners reduce NO_x formation by producing lower flame temperatures and longer flames than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO_x burners delay the mixing of fuel and air by introducing the fuel or air in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the

fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_X. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

Process Emissions

The grinding and conveying of dried food waste material will emit particulate matter with an aerodynamic diameter smaller than or equal to 10 microns (PM10). The conveyors are enclosed to minimize the PM10 emissions during the transfer of the dried materials. A baghouse will be utilized to capture and control PM10 emissions from the grinder, with an expected overall PM10 capture and control efficiency of 99%.

VII. GENERAL CALCULATIONS

A. Assumptions

- The maximum operating schedule for this equipment is 24 hours per day, 8,760 hours/year.
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice).
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B).
- The annual heat input will be limited to 135,000 MMBtu/year (per applicant)
- The maximum process throughput is 480 tons/day.
- Fugitive PM10 emissions are not expected from the conveying and transfer of the final product. (per engineering evaluation for District Project N-1131307)
- The overall PM10 capture and control efficiency for the proposed baghouse is 99% by weight.
- 100% of the particulate matter emitted from the baghouse will be PM10.
- All other assumptions will be stated as they are made.

B. Emission Factors (EF)

Rotary Dryer:

The following emission factors will be used to calculate emissions from the rotary dryer.

	EF	Source
NO_x	30 ppmvd @ 3% O_2 or 0.036 lb/MMBtu	Applicant
SO_x	0.00285 lb/MMBtu	AP-42 Table 1.4-2
PM10	0.0076 lb/MMBtu	AP-42 Table 1.4-2
CO	42 ppmvd @ 19% O_2 or 0.286 lb/MMBtu	Applicant
VOC	0.0055 lb/MMBtu	AP-42 Table 1.4-2

Grinder Emissions

No general accepted emission factors have bee established for vegetable by products grinding. The emission factor for hammermill grain grinding served by a baghouse from AP-42, Table 9.9.1-2 (3/03) for animal feed mills is expected to be conservative for this type of operation and will be used to estimate emissions.

$EF_{Grinder/Baghouse}$ = 0.012 lb-PM/ton (controlled)

C. Calculations

1. Pre-Project Potential to Emit (PE1)

This project only includes new emission units; therefore, PE1 is equal to zero.

2. Post-Project Potential to Emit (PE2)

Rotary Dryer:

The dryer emissions are based on the following formulas:

PE_{Daily} = 19.9 MMBtu/hr x EF (lb/MMBtu) x 24 hr/day
PE_{Annual} = 135,000 MMBtu/year x EF (lb/MMBtu)

Pollutant	EF (lb/MMBtu)	PE2 (lb/day)	PE2 (lb/year)
NO_x	0.036	17.2	4,860
SO_x	0.00285	1.4	385
PM_{10}	0.0076	3.6	1,026
CO	0.286	136.6	38,610
VOC	0.0055	2.6	743

Grinder Emissions

Grinder emissions are based on the following formulas:

PE_{Daily} = 480 tons/day x EF (lb/ton)
PE_{Annual} = PE_{Daily} x 365 days/year

Pollutant	EF (lb/ton)	PE2 (lb/day)	PE2 (lb/year)
PM_{10}	0.012	5.8	2,117

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

This facility does not have any existing permit units. Therefore, SSPE1 is equal to zero for all pollutants.

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

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/yr)					
Permit Number	**NOx**	**SOx**	**PM10**	**CO**	**VOC**
N-8734-1-1	4,860	385	3,143	38,610	743
SSPE2	**4,860**	**385**	**3,143**	**38,610**	**743**

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Major Source Determination					
Pollutant	**SSPE1 (lb/yr)**	**SSPE2 (lb/yr)**	**Major Source Threshold (lb/yr)**	**Existing Major Source?**	**Becoming a Major Source?**
NO_x	0	4,860	20,000	No	No
SO_x	0	385	140,000	No	No
PM_{10}	0	3,143	140,000	No	No
CO	0	38,610	200,000	No	No
VOC	0	743	20,000	No	No

Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)							
	NO2	**VOC**	**SO2**	**CO**	**PM**	**PM10**	**CO2e**
Estimated Facility PE before Project Increase	0	0	0	0	0	0	0
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	No	No	No	No	No	No	No

As shown above, the facility is not an existing major source for PSD.

6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.22

Since the emission units are new, BE is equal to zero.

7. SB288 Modification

SB288 Modification is defined in 40 CFR Part 51.165 (as in effect in December 19, 2002) as "*any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.*"

As discussed in Section VII.C.5 above, the facility is not a Major Source for any of the criteria pollutants; therefore, the project does not constitute a SB288 Modification.

8. Federal Major Modification

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

As discussed in Section VII.C.5 above, the facility is not a Major Source for any of the criteria pollutants; therefore, the project does not constitute a Federal Major Modification.

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

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

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

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

While this facility has no emission units under permit, this facility is an existing source. Since this is an existing source that is not an existing PSD source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

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

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

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	2.4	0.4	0.2	19.3	1.6	1.6	7,870.5[1]
PSD Major Source Threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	No	No	No	No	No	No	No

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

10. Quarterly Net Emissions Change (QNEC)

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

VIII. COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in a SB288 or Federal Major Modification.

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

[1] An ARB emission factor of 116.6 lb-CO_2e/MMBtu will be used to estimate GHG emissions from the natural gas-fired dryer. The annual heat input of the dryer will be limited to 135,000 MMBtu/year. Using these values, the annual CO_2e emissions are:

PE CO_2e = 135,000 MMBtu/year x 116.6 lb-CO_2e/MMBtu x ton/2000 lb = 7,870.5 tons CO_2e/year

a. New emissions units with PE exceeding 2.0 lb/day

Rotary Dryer:

BACT for CO cannot be triggered since SSPE2 is less than 200,000 lb/year. The following table summarizes the emissions of the remaining pollutants from the rotary dryer.

Pollutant	PE2 (lb/day)
NO_x	17.2
SO_x	1.4
PM10	3.6
VOC	2.6

Emissions of NOx, PM_{10} and VOC are greater than 2.0 lb/day. Thus, BACT is triggered for these pollutants.

Grinder

The following table summariezes the emisslons from the grinding operation:

Pollutant	PE2 (lb/day)
PM10	5.8

Emissions of PM10 are greater than 2.0 lb/day. Thus, BACT is triggered for PM10.

b. The relocation of a unit from one stationary to another stationary source.

The applicant is not proposing to relocate any emissions units to another stationary source.

c. Modifications to an existing emissions unit with an Adjusted Increase in Potential to Emit (AIPE) exceeding 2.0 pounds per day.

There are no modified units in this project; thus, the AIPE trigger threshold is not applicable.

d. Any new or modified emissions unit, in a stationary source project, which results in a SB288 or Federal Major Modification.

As shown in section VII.C.7, this project does not result in a SB288 or Federal Major Modification

In summary, BACT is triggered for NOx, PM10 and VOC from the rotary dryer, and for PM10 from the grinder.

2. BACT Guideline

Rotary Dryer:

BACT Guideline 1.6.13, 4th Quarter 2014, "Dehydrator – Vegetable, Continuous Process", is applicable to the food waste (tomatoes) drying operation. A copy of the guideline is included in Appendix III.

Grinder

BACT Guideline 5.2.4, 4th Quarter 2014, "Feed Mill Dry Process Grain Grinding Operations", is applicable to the food waste grinding operation. A copy of the guideline is included in Appendix IV.

3. Top-Down BACT Analysis

Rotary Dryer:

Pursuant to the top-down BACT analysis in Appendix III of this document, BACT requirements are satisfied with the following:

NOx: Low-NOx Burner (0.036 lb-NOx/MMBtu)
PM_{10}: Use of PUC-quality natural gas fuel
VOC: Use of PUC-quality natural gas fuel

The applicant is proposing this level of control; therefore, BACT requirements are satisfied for the dryer.

Grinder

Pursuant to the top-down BACT analysis in Appendix IV of this document, BACT requirements are satisfied with the following:

PM_{10}: Use of a baghouse or equivalent equipment with 99% control efficiency

The applicant is proposing this level of control; therefore, BACT requirements are satisfied for the grinding operation.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant-by-pollutant basis. Unless exempted pursuant to Section 4.6, offset requirements shall be triggered if the post-project SSPE2 equals or exceeds the following offset threshold levels.

The following table demonstrates that this project does not trigger offsets. No further analysis is required.

Offsets Applicability			
Pollutant	SSPE2 (lb/yr)	Offset Threshold (lb/yr)	Offsets Triggered?
NO_x	4,860	20,000	No
SO_x	385	54,750	No
PM_{10}	3,143	29,200	No
CO	38,610	200,000	No
VOC	743	20,000	No

C. Public Notification

1. Applicability

Public noticing is required for:

a. Any new Major Source, which is a new facility that is also a Major Source,
b. Major Modifications,
c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
d. Any project which results in the offset thresholds being surpassed, and/or
e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

As demonstrated in section VII.C.5 above, the facility is not becoming a new Major Source as a result of this project.

b. SB288 or Federal Major Modification

As demonstrated in VII.C.7 and VII.C.8, this project does not constitute a SB288 or Federal Major Modification; therefore, public noticing for SB288 or Federal Major Modification purposes is not required.

c. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. The dryer will have a PE greater than 100 lb/day for CO emissions; therefore, a public notice is required for a PE > 100 lb/day.

d. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	**SSPE1 (lb/year)**	**SSPE2 (lb/year)**	**Offset Threshold**	**Offset Threshold Surpassed?**
NO_X	0	4,860	20,000 lb/year	No
SO_X	0	385	54,750 lb/year	No
PM_{10}	0	3,143	29,200 lb/year	No
CO	0	38,610	200,000 lb/year	No
VOC	0	743	20,000 lb/year	No

As shown above, an offset threshold will not be surpassed.

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	**SSPE2 (lb/year)**	**SSPE1 (lb/year)**	**SSIPE (lb/year)**	**SSIPE Public Notice Threshold**	**Public Notice Required?**
NO_x	4,860	0	4,860	20,000 lb/year	No
SO_x	385	0	385	20,000 lb/year	No
PM_{10}	3,143	0	3,143	20,000 lb/year	No
CO	38,610	0	38,610	20,000 lb/year	**Yes**
VOC	743	0	743	20,000 lb/year	No

As demonstrated in the table above, a public notice is required for SSIPE greater than 20,000 lb/year.

2. Public Notice Action

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

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The following conditions will be included on the Authority to Construct permit:

- *The rotary dryer shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4309]*

- *Emissions from the rotary dryer shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu (Equivalent to 3.2 ppmvd NOx @ 19% O2) , 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O2 or 0.286 lb-CO/MMBtu (Equivalent to 42 ppmvd CO @ 19% O2), or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4309]*

- *The rotary dryer's annual heat input shall not exceed 135,000 MMBtu in any calendar year. [District Rule 2201]*

- *The quantity of material processed through the grinder shall not exceed 480 tons in any one day. [District Rule 2201]*

- *PM10 emissions from the baghouse serving the grinder shall not exceed 0.012 pounds per ton of material processed. [District Rule 2201]*

E. Compliance Assurance

1. Source Testing

The dryer is subject to District Rule 4309. Source testing requirements, in accordance with District Rule 4309, will be discussed in Section VIII, *District Rule 4309*, of this evaluation.

Pursuant to District Policy APR 1705 (Source Testing Frequency), non-combustion equipment served by a baghouse/dust collector or cyclone with expected PM_{10} emissions of 30 pounds per day or greater shall be source tested upon initial start-up. Units with PM_{10} emissions in excess of 70 pounds per day should also be tested on an annual basis. Per Section VII.C.2. of this document, the PM_{10} emissions from the baghouse serving the grinder will not exceed 30 pounds per day. Therefore, initial startup and annual source testing of the proposed baghouse will not be required.

2. Monitoring

The dryer is subject to District Rule 4309. Monitoring requirements, in accordance with District Rule 4309, will be discussed in Section VIII, *District Rule 4309*, of this evaluation.

The proposed baghouse is equipped with a pressure differential gauge. Therefore, monitoring of the pressure differential will not be required.

3. Recordkeeping

The dryer is subject to District Rule 4309. Recordkeeping requirements, in accordance with District Rule 4309, will be discussed in Section VIII, *District Rule 4309*, of this evaluation. In addition to the Rule 4309 requirements, the following requirement will be included on the permit to enforce the annual heat input requirement.

The following condition will be included on the Authority to Construct permit:

- *Permittee shall maintain annual records of the rotary dryer heat input, in MMBtu. [District Rule 2201]*
- *Records of the daily quantity of food waste processed, in tons, shall be maintained. [District Rule 2201]*

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

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

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

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

District Rule 2520 Federally Mandated Operating Permits

Since the facility's potential emissions do not exceed any major source thresholds, Rule 2520 does not apply.

District Rule 4001 New Source Performance Standards

There are no applicable New Source Performance Standards that apply to this type of operation.

District Rule 4002 National Emission Standards for Hazardous Air Pollutants

There are no applicable National Emission Standards for Hazardous Air Pollutants that apply to this type of operation.

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.

The following condition will be included on the Authority to Construct permit:

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

District Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of this operation, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

The following condition will be included on the Authority to Construct permit:

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

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. The following table summarizes the results of the risk management review. More detailed results are available in Appendix V.

RMR Summary			
Categories	**NG Fired Food Waste Dryer (1-1)**	**Project Totals**	**Facility Totals**
Prioritization Score	0.041	0.041	0.041
Acute Hazard Index	N/A[1]	N/A[1]	N/A[1]
Chronic Hazard Index	N/A[1]	N/A[1]	N/A[1]
Maximum Individual Cancer Risk	N/A[1]	N/A[1]	N/A[1]
T-BACT Required?	No		
Special Permit Conditions?	No		

1. Acute and Chronic Hazard Indices and Maximum Individual Cancer Risk were not calculated since the facility prioritization score is less than 1.0.

District Rule 4201 Particulate Matter Concentration

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

Rotary Dryer

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
PM_{10} Emission Factor: 0.0076 lb-PM_{10}/MMBtu
Percentage of PM as PM_{10} in Exhaust: 100%

$$GL = \left(\frac{0.0076\ lb-PM}{MMBtu} \times \frac{7{,}000\ grain}{lb-PM} \right) / \left(\frac{8{,}578\ ft^3}{MMBtu} \right)$$

$$GL = 0.01\ grain/dscf < 0.1\ grain/dscf$$

Grinder

Max Quantity of PM Emissions: 5.8 lb PM/day[(2)]
Max Operating Hours: 24 hr/day (1,440 min/day)
Air Flow Rate: 5,500 cfm

GL = (5.8 lb PM/day × 7,000 grains/lb) ÷ (5,500 scfm × 1,440 min/day)
GL = 0.0051 grains/dscf < 0.1 gr/dscf

[2] Based on a PM10 fraction of 1.0 lb-PM10/lb-PM.

Therefore, compliance with District Rule 4201 requirements is expected. The following condition will be included on the Authority to Construct permit.

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

District Rule 4202 Particulate Matter – Emission Rate

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

$E = 3.59 \times P^{0.62}$ if $P \leq 30$ (tons/hr)
$E = 17.31 \times P^{0.16}$ if $P > 30$ (tons/hr)

Where,

E = emissions in (lb/hr)
P = process weight rate in (tons/hr)

The maximum processing rate for the grinder is 480 tons per day. The worst case operating schedule is 24 hours per day. Therefore,

P = 480 tons/day ÷ 24 hr/day = 20 tons/hr

$E_{Max} = 3.59 \times (20)^{0.62} =$ 23.00 lb-PM/hr

The proposed emission rate is 0.24 lb-PM/hr (5.8 lb-PM/day ÷ 24 hr/day). Since the proposed emission rate is less than E_{max}, compliance with the requirements of District Rule 4202 is expected.

District Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO_2, NO_2, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter. This rule does not apply to direct fired units. The rotary dryer is direct-fired; therefore, the rotary dryer is not subject to the requirements of this rule.

District Rule 4309 Dryers, Dehydrators, and Ovens

The purpose of this rule is to limit emissions of oxides of nitrogen (NOx) and carbon monoxide (CO) from dryers, dehydrators, and ovens. This rule applies to any dryer, dehydrator, or oven that is fired on gaseous fuel, liquid fuel, or is fired on gaseous and liquid fuel sequentially, and the total rated heat input for the unit is 5.0 million British thermal units per hour (5.0 MMBtu/hr) or greater. Dryer is defined in this rule as a device in which material is dried or cured in direct contact with the products of combustion. The proposed unit meets this definition and there are no applicable exemptions from this Rule. Therefore, the proposed unit is subject to District Rule 4309 requirements.

Section 5.0 through 5.3, Emission Requirements

Section 5.0 states that all ppmv limits specified in this section are referenced at dry stack gas conditions and adjusted using an oxygen correction factor of 19% by volume.

Section 5.1 is applicable to dehydrators. The proposed unit is a dryer; therefore, these requirements are not applicable.

Section 5.2 states that a dryer must meet the following emission limits:

Process Description	NOx Limit (in ppmv @ 19% O_2)		CO Limit (in ppmv @ 19% O_2)	
	Gaseous Fuel	Liquid Fuel	Gaseous Fuel	Liquid Fuel
Asphalt/Concrete Plants	4.3	12.0	42	64
Milk, Cheese, and Dairy Processing < 20 MMBtu/hr	3.5	3.5	42	42
Milk, Cheese, and Dairy Processing > 20 MMBtu/hr	5.3	5.3	42	42
Other processes not described above	4.3	4.3	42	42

The applicant has proposed a gaseous fuel-fired unit that is subject to the gaseous fuel limits for the "Other processes not described above" category. The condition will be included on the Authority to Construct permit:

- *Emissions from the rotary dryer shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu (Equivalent to 3.2 ppmvd NOx @ 19% O2) , 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O2 or 0.286 lb-CO/MMBtu (Equivalent to 42 ppmvd CO @ 19% O2), or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4309]*

Section 5.3 states that the applicable emission limits in Section 5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements listed in Rule 4309. The applicant is not requesting relief from the emission limits during start-up or shutdown. Thus, Section 5.3 provisions are not applicable.

Section 5.4, Monitoring Requirements

Section 5.4.1 states that the operator of a dryer must install a CEMS for NOx and oxygen, or must install and maintain an alternate emission monitoring method that meets the requirements of 5.4.1.2.1 through 5.4.1.2.3 of the rule.

The applicant has proposed to utilize a pre-approved alternate monitoring scheme to comply with this requirement. They are proposing to monitor NOx, CO, and O2 at least once per month using a portable analyzer. The following conditions will be included on the Authority to Construct permit:

- *{3741} 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 Rule 4309]*

- *{3742} 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]*

- *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 readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]*

- *{3744} 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]*

Section 5.5, Compliance Determination

Section 5.5.1 states that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the PTO.

Section 5.5.2 states that except for as provided in Section 5.5.3, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0.

The following condition will be included on the Authority to Construct permit:

- *{3713} 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]*

Section 5.5.3 states that notwithstanding the requirements of Section 5.5.2, the APCO, ARB, and US EPA may approve a longer or shorter period before compliance determination, if an operator submits an application for a PTO condition which provides a justification for the requested duration.

Section 5.5.4 states that all CEMS emissions measurements shall be averaged over a period of 15 consecutive minutes to demonstrate compliance with the applicable emission limits of this rule. Any 15-consecutive-minute block average CEMS measurement exceeding the applicable emission limits of this rule shall constitute a violation of this rule. The facility has not proposed to utilize a CEMS; therefore the requirements of this section are not applicable to the dryer in this project.

Section 5.5.5 states that for emissions monitoring pursuant to Section 5.4.1.2.2.1, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five readings evenly spaced out over the 15-consecutive-minute period. The following condition will be included on the Authority to Construct permit:

- *{3743} 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 readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]*

Section 5.5.6 states that for emissions source testing performed pursuant to Section 6.3.1 to determine compliance with an applicable emission limit of this rule, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the unit, even if the averaged emissions of all three test runs is less than the applicable limit. The following condition will be included on the Authority to Construct permit:

- *{3715} 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]*

Section 6.1, Recordkeeping

Section 6.1.1 states the recordkeeping requirements of a unit that uses CEMS to monitor emissions. Since the applicant has not proposed a CEMS to monitor emissions, the requirements of this section do not apply to the unit in this project.

Section 6.1.2 states that operators using an alternate emissions monitoring system shall maintain the following records on a periodic basis:

- Total hours of operation.
- Type and quantity of fuel used during operations.
- Measurement for each surrogate parameter.
- Range of allowed values for each surrogate parameter.
- The period for recordkeeping shall be specified in the PTO conditions.

The following condition will be included on the Authority to Construct permit:

- *Permittee shall keep records of the total annual hours of operation of the dryer. These records shall be updated on at least a monthly basis. [District Rule 4309]*

Section 6.1.3 only applies to dehydrators; therefore this section is not applicable to the unit in this project.

Section 6.1.4 states that the operator of a unit subject to Section 5.2 and performing start-up or shutdown of that unit shall keep records of the duration of each start-up and each shutdown. The facility has not proposed start-up or shutdown emission factors for the dryer in this operation; therefore the requirements of this section do not apply to the dryer in this project.

Section 6.1.5 states the recordkeeping requirements of an operator of any unit operated under the exemption of Section 4.3. Since the applicant has not applied for the exemption in Section 4.3, the requirements in this section do not apply to the dryer in this project.

Section 6.1.6 states the records and manufacturer's specifications required by Sections 6.1.1 through 6.1.5 shall meet all of the following requirements.

- The records shall be maintained for five calendar years,
- The records shall be made available on-site during normal business hours, and
- The records shall be submitted to the APCO upon request.

The following condition will be included on the Authority to Construct permit:

- *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 and 4309, and Public Resources Code 21000-21177: California Environmental Quality Act]*

Section 6.2, Test Methods

Section 6.2 lists the test methods required by the rule. In lieu of the test methods listed below the facility can utilize alternative APCO and US EPA approved test methods.

Pollutant	Units	Test Method Required
Fuel hhv	Fuel hhv shall be certified by third party fuel supplier or:	
	Liquid fuels	ASTM D 240-87 or D 2382-88
	Gaseous fuels	ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89
NO_X	ppmv	EPA Method 7E or ARB Method 100
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O_2	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

The following conditions will be included on the Authority to Construct permit:

- *{3718} NO_X emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]*
- *{3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]*
- *{3720} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]*
- *Stack gas velocities shall be determined using EPA Method 2. [District Rule 4309]*
- *Stack gas moisture content shall be determined using EPA Method 4. [District Rule 4309]*

Section 6.3, Compliance Demonstration

Section 6.3.2 states that each unit subject to the requirements in Sections 4.3, or 5.2 shall be initially source tested to determine compliance with the applicable emission limits not later than the applicable full compliance schedule specified in Section 7.0. Thereafter, each unit subject to Section 5.2 emission limits shall be source tested at least once every 24 months. Units subject to Section 5.2 and operating less than 50 days per calendar year shall follow the source test frequency prescribed in Section 6.3.3. Initial testing has already occurred. The following condition will be included on the Authority to Construct permit:

- *Source testing to measure the rotary dryer NOx and CO emissions shall be conducted at least once every 24 months. [District Rules 2201 and 4309]*

Section 6.3.5 states that the APCO shall be notified according to the provisions of Rule 1081 (Source Sampling). The following conditions will be added to the permit to assure compliance with this section.

- *{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]*

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

Section 6.3.6 states that emissions source testing shall be conducted with the unit operating either at conditions representative of normal operations or conditions specified in the PTO. The requirements of this section will be satisfied by the condition listed in Sections 5.5.1 and 5.5.2 of this rule evaluation.

Section 6.3.7 states that all test results for NOx and CO shall be reported in ppmv, corrected to dry stack conditions and adjusted using the oxygen correction factor. The following condition will be added to the permit to assure compliance with this section.

- *{3722} All test results for NOx and CO shall be reported in ppmv @ 19% O_2, corrected to dry stack conditions. [District Rule 4309]*

Section 6.3.8 states that for the purpose of determining compliance with an applicable emission limit, the arithmetic average of three 30-consecutive-minute test runs shall apply.

Section 6.3.9 states that if two of the three runs specified by Section 6.3.8 individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the unit, even if the averaged emissions of all three runs is less than the applicable limit.

The requirements of Sections 6.3.8 and 6.3.9 will be satisfied by the condition listed in Section 5.5.6 of this rule evaluation.

Summary

Compliance with District Rule 4309 requirements is expected.

District Rule 4801 Sulfur Compounds

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

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

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

With:

N = moles SO_2
T (Standard Temperature) = 60°F = 520°R
P (Standard Pressure) = 14.7 psi
R (Universal Gas Constant) = $\frac{10.73\,psi \cdot ft^3}{lb \cdot mol \cdot {}^\circ R}$

Natural Gas Combustion:

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

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

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

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

Thus, compliance with District Rule 4801 requirements is expected.

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

Project specific impacts on global climate change were evaluated consistent with the adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency.* Emissions from the proposed operation are greater than 230 metric tons of CO_2 equivalent per year. The only greenhouse gas emission unit is the natural gas-fired dryer.

Per the District's Draft Policy titled CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation (September 30, 2013), all increases in GHG emissions caused by the use of transportation fuels, natural gas and other fuels (except jet fuel) are considered mitigated by the fuel supplier and are not significant under CEQA. The unit currently under consideration will fire solely on natural gas, therefore, its GHG emission increases are not significant under CEQA.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

California Health & Safety Code 42301.6 (School Notice)

The proposed equipment will not be located within 1000' of a k-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct permit N-8734-1-1 subject to the permit conditions on the attached draft Authority to Construct permit in Appendix I.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	**Fee Schedule**	**Fee Description**	**Annual Fee**
N-8734-1-1	3020-02-H	19.9 MMBtu/hr	$1030

APPENDICES

Appendix I: Draft Authority to Construct Permit
Appendix II: Process Flow Diagram
Appendix III: BACT Guideline 1.6.13 and Top-Down BACT Analysis
Appendix IV: BACT Guideline 5.2.4 and Top-Down BACT ANalysis
Appendix V: Risk Management Review and Ambient Air Quality Analysis Results
Appendix VI: Quarterly Net Emission Change Calculations

APPENDIX I

Draft Authority to Construct Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-8734-1-1 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: GILTON RESOURCE RECOVERY
MAILING ADDRESS: 755 S YOSEMITE AVE
OAKDALE, CA 95361

LOCATION: 818 MCCLOY RD
STOCKTON, CA 95203

EQUIPMENT DESCRIPTION:
FOOD WASTE DRYING AND PASTEURIZATION OPERATION CONSISTING OF A 19.9 MMBTU/HR NATURAL GAS-FIRED BAKER RULLMAN MODEL SC90-30 ROTARY DRYER WITH A CYCLONE, A BLISS MODEL 4820TF GRINDER VENTED TO A MAC MODEL 96AVR80 BAGHOUSE, ASSOCIATED HOPPERS, AND CONVEYING EQUIPMENT

CONDITIONS

1. Authorities to Construct N-8734-1-0 and N-8734-1-2 shall be cancelled upon the implementation of this Authority to Construct into a Permit to Operate. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
5. Visible emissions from the exhaust of the baghouse shall not exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
6. {1407} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
7. {3457} The baghouse shall be maintained and operated according to manufacturer's specifications. [District Rule 2201]
8. The baghouse exhaust fan(s) shall be switched on prior to any material processing through the grinder. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
N-8734-1-1: Oct 10 2014 8:54AM – HARADERJ : Joint Inspection NOT Required

9. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
10. 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]
11. Material removed from baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
12. The quantity of material processed through the grinder shall not exceed 480 tons in any one day. [District Rule 2201]
13. PM10 emissions from the baghouse serving the grinder shall not exceed 0.012 pounds per ton of material processed. [District Rule 2201]
14. The rotary dryer shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4309]
15. Emissions from the rotary dryer shall not exceed any of the following limits: 30 ppmvd NOx @ 3% O2 or 0.036 lb-NOx/MMBtu (Equivalent to 3.2 ppmvd @ 19% O2) , 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O2 or 0.286 lb-CO/MMBtu (Equivalent to 42 ppmvd @ 19% O2), or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4309]
16. The rotary dryer's annual heat input shall not exceed 135,000 MMBtu in any calendar year. [District Rule 2201]
17. Source testing to measure the rotary dryer NOx and CO emissions shall be conducted at least once every 24 months. [District Rules 2201 and 4309]
18. {3713} 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]
19. {3718} NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
20. {3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
21. {3720} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
22. Stack gas velocities shall be determined using EPA Method 2. [District Rule 4309]
23. Stack gas moisture content shall be determined using EPA Method 4. [District Rule 4309]
24. {3715} 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]
25. {3722} 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]
26. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
27. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
28. {3741} 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 Rule 4309]

CONDITIONS CONTINUE ON NEXT PAGE

29. {3742} 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 performing the notification and testing required by this condition. [District Rule 4309]
30. 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 readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]
31. {3744} 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]
32. Records of the daily quantity of food waste processed, in tons, shall be maintained. [District Rules 1070 and 2201]
33. Records of all maintenance of the baghouse, including all change outs of filter media, shall be maintained. [District Rules 1070 and 2201]
34. Permittee shall maintain annual records of the rotary dryer heat input, in MMBtu. [District Rule 2201]
35. Permittee shall keep records of the total annual hours of operation of the dryer. These records shall be updated on at least a monthly basis. [District Rule 4309]
36. 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 and 4309]

DRAFT

APPENDIX II

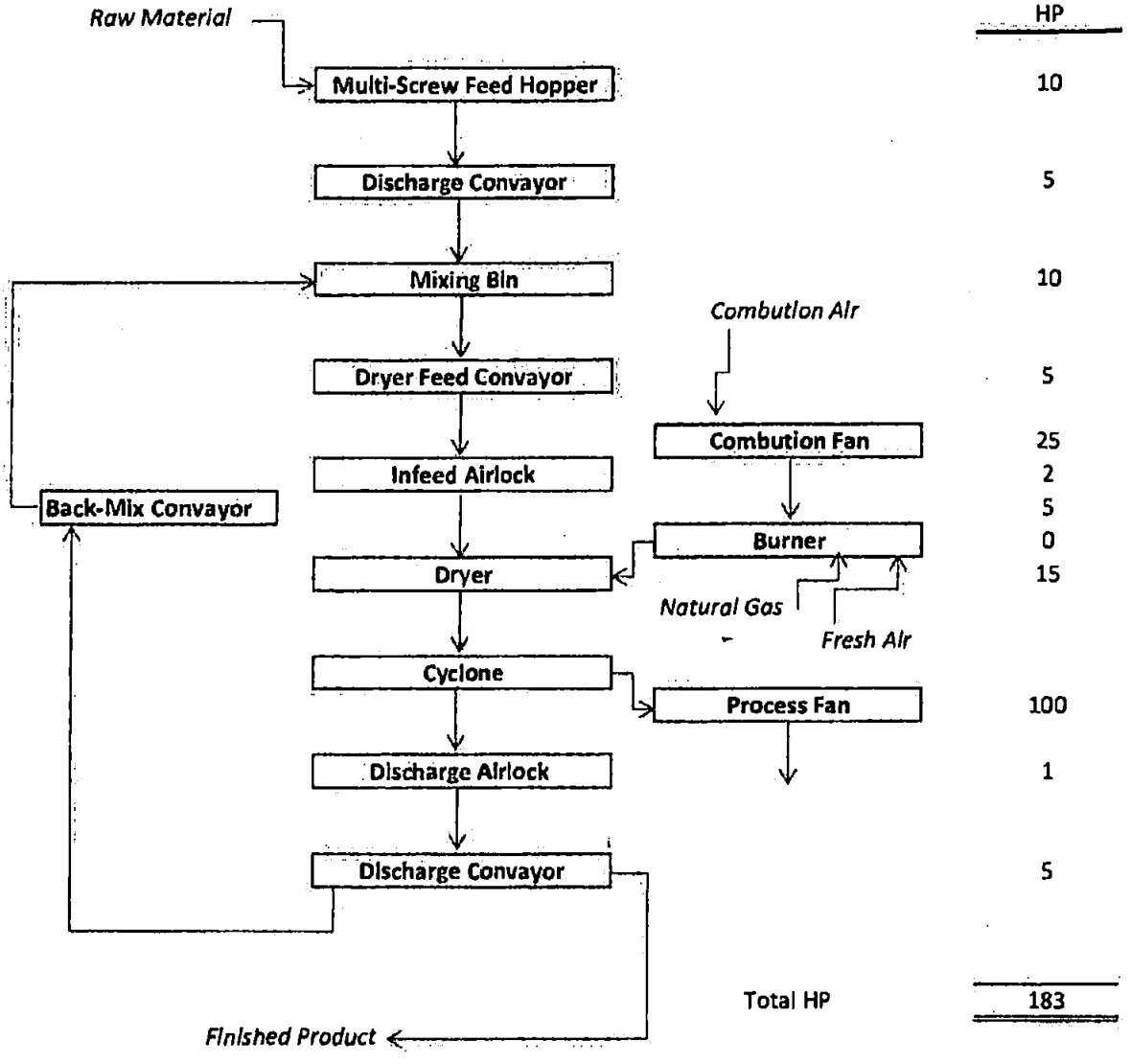
Process Flow Diagram

Tomato Pomace Drying

Gilton Recource Recovery

Flow Chart

3/15/2012



	HP
Multi-Screw Feed Hopper	10
Discharge Convayor	5
Mixing Bin	10
Dryer Feed Convayor	5
Combution Fan	25
Infeed Airlock	2
Back-Mix Convayor	5
Burner	0
Dryer	15
Cyclone	
Process Fan	100
Discharge Airlock	1
Discharge Convayor	5
Total HP	183

APPENDIX III

BACT Guideline 1.6.13 and Top-Down BACT Analysis

Back

Best Available Control Technology (BACT) Guideline 1.6.13
Last Update: 6/26/1998

Dehydrator - Vegetable, Continuous Process

Pollutant	Achieved In Practice or In the SIP	Technologically Feasible	Alternate Basic Equipment
NOx		1. Low-NOx Burner with SCR (<0.036 lb/MMBtu) 2. Low NOx Burner (0.036 lb/MMBtu) 3. Natural Gas Fired Burner (<0.06lb/MMBtu)	
PM10		PUC-quality natural gas fuel and vents ducted to a cyclone (>90% control efficiency) on product transfer points.	baghouse
VOC		Use of PUC-quality natural gas fuel	

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

This is a Summary Page for this Class of Source. For background information, see Permit Specific BACT Determinations on Details Page.

Top Down BACT Analysis for NOx Emissions from Rotary Dryer

This unit is practically identical to a dehydrator. Thus, BACT Guideline 1.6.13, for vegetable dehydrators, will be applied to this operation.

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse guideline 1.6.13, 4th Quarter 2014, identifies achieved in practice and technologically feasible BACT for Dehydrator – Vegetable, Continuous Process, as follows:

1) Low Nox Burner with Selective Catalytic Reduction (Technologically Feasible)
2) Low-Nox Burner < 0.036 lb-NOx/MMBtu (Technologically Feasible)
3) Natural Gas-Fired Burner < 0.06 lb/MMBtu (Technologically Feasible)

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1) Low Nox Burner with Selective Catalytic Reduction (Technologically Feasible)
2) Low-Nox Burner < 0.036 lb-NOx/MMBtu (Technologically Feasible)
3) Natural Gas-Fired Burner < 0.06 lb/MMBtu (Technologically Feasible)

Step 4 - Cost Effectiveness Analysis

The applicant has proposed a low-NOx burner capable of achieving 0.036 lb-NOx/MMBtu. The only remaining technologically feasible control option that is more effective is the use of selective catalytic reduction (SCR) system. A cost analysis is normally required to demonstrate whether a technologically feasible control option is required. However, as shown in the following table, this facility is a small emitter.

Pollutant	Total Facility Potential to Emit (lb/day)	Small Emitter Threshold (lb/day)	Small Emitter?
NOx	17.2	40	Yes
SOx	1.4	30	Yes
PM10	9.4	30	Yes
CO	136.6	220	Yes
VOC	2.6	30	Yes

Pursuant to section IX.E. of the District's BACT Policy, APR 1305, technologically feasible and cost effective control that is more effective than the achieved-in-practice option shall not be required for a small emitter. Since this facility is a small emitter, a cost analysis is not required for a selective catalytic reduction system and that control option is not required.

Step 5 - Select BACT

The applicant has proposed a burner capable of achieving 0.036 lb-NOx/MMBtu, one of the technologically feasible control options. Further control of NOx emissions was determined to not be required since this facility is a small emitter. Thus, BACT requirements for NOx are satisfied.

Top Down BACT Analysis for PM10 Emissions from Rotary Dryer

This unit is practically identical to a dehydrator. Thus, BACT Guideline 1.6.13, for vegetable dehydrators, will be applied to this operation.

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse guideline 1.6.13, 4th Quarter 2014, identifies achieved in practice and technologically feasible BACT for Dehydrator – Vegetable, Continuous Process, as follows:

1) PUC-quality natural gas fuel and vents ducted to a cyclone (> 90% control efficiency) on product transfer points. (Achieved in Practice)
2) Baghouse for control of emissions from product transfer points. (Technologically Feasible)

Step 2 - Eliminate Technologically Infeasible Options

Product transfer emissions were assumed to be negligible since the moisture content of the final product is 10% by weight. Therefore, only the requirements that are applicable to combustion in the dryer will be carried through to Step 3.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1) PUC-quality natural gas fuel (Achieved in Practice)

Step 4 - Cost Effectiveness Analysis

The only remaining item in Step 3, above, is Achieved in Practice. Cost effective analyses are not required for Achieved in Practice control options.

Step 5 - Select BACT

BACT for PM10 is the use of PUC-quality natural gas fuel. The applicant has proposed this option; therefore, the BACT requirements for PM10 are satisfied.

Top Down BACT Analysis for VOC Emissions from Rotary Dryer

This unit is practically identical to a dehydrator. Thus, BACT Guideline 1.6.13, for vegetable dehydrators, will be applied to this operation.

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse guideline 1.6.13, 4th Quarter 2014, identifies achieved in practice and technologically feasible BACT for Dehydrator – Vegetable, Continuous Process, as follows:

1) Use of PUC-quality natural gas fuel (Achieved in Practice)

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1) Use of PUC-quality natural gas fuel (Achieved in Practice)

Step 4 - Cost Effectiveness Analysis

The only remaining item in Step 3, above, is Achieved in Practice. Cost effective analyses are not required for Achieved in Practice control options.

Step 5 - Select BACT

BACT for VOC is the use of PUC-quality natural gas fuel. The applicant has proposed this option; therefore, the BACT requirements for VOC are satisfied.

APPENDIX IV

BACT Guideline 5.2.4 and Top-Down BACT Analysis

Back

Best Available Control Technology (BACT) Guideline 5.2.4
Last Update: 4/25/2012

Feed Mill - Grain Grinding, Dry Process

Pollutant	Achieved In Practice or In the SIP	Technologically Feasible	Alternate Basic Equipment
PM10	Baghouse, or equivalent (99% or greater control efficiency)		

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

This is a Summary Page for this Class of Source. For background Information, see Permit Specific BACT Determinations on Details Page.

Top Down BACT Analysis for PM10 Emissions from Grinder

BACT Guideline 5.2.4, for Feed Mill – Grain Grinding, Dry Process, will be applied to this operation.

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse guideline 5.2.4, 4th Quarter 2014, identifies achieved in practice and technologically feasible BACT for PM10 as follows:

1) Baghouse, or equivalent with 99% or greater control efficiency (Achieved in Practice)

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1) Baghouse, or equivalent with 99% or greater control efficiency (Achieved in Practice)

Step 4 - Cost Effectiveness Analysis

The only remaining item in Step 3, above, is Achieved in Practice. Cost effective analyses are not required for Achieved in Practice control options.

Step 5 - Select BACT

BACT is the use of a baghouse. The applicant has proposed the use of a baghouse that meets the 99% control efficiency requirement. Thus, BACT requirements for PM10 are satisfied.

APPENDIX V

Risk Management Review and Ambient Air Quality Analysis Results

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	James Harader AQE– Permit Services
From:	Esteban Gutierrez AQS– Technical Services
Date:	October 8, 2014
Facility Name:	Gilton Resource Recovery
Location:	818 McCloy Rd Stockton, CA
Application #(s):	N-8734-1-1
Project #:	N-1131319

A. RMR SUMMARY

RMR Summary			
Categories	**NG-fired Food Waste Dryer**	**Project Totals**	**Facility Totals**
Prioritization Score	0.041	0.041	0.041
Acute Hazard Index	N/A[1]	N/A[1]	N/A[1]
Chronic Hazard Index	N/A[1]	N/A[1]	N/A[1]
Maximum Individual Cancer Risk (10^{-6})	N/A[1]	N/A[1]	N/A[1]
T-BACT Required?	**No**		
Special Permit Conditions?	**No**		

[1] Acute and Chronic Hazard Indices and Maximum Individual Cancer Risk were not calculated since the total facility prioritization score was less than 1.0.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 1-1

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on September 27, 2014, to perform an Ambient Air Quality Analysis and a Risk Management Review for the installation of a natural gas-fired dryer.

II. Analysis

Toxic emissions for this proposed unit were calculated using Ventura County APCD emission factors for external natural gas combustion between 10 and 100 MMBtu/hr. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for this proposed unit was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following paramaters were used for the review:

Analysis Parameters Unit 1-1			
Source Type	Point	**Location Type**	Urban
Stack Height (m)	21.34	**Closest Receptor (m)**	152.4
Stack Diameter (m)	0.76	**Type of Receptor**	Business
Stack Flow (cfm)	18,000	**Max Hours per Year**	6,784
Stack Exit Temperature (K)	344.3	**Fuel Type**	NG
Process Rate (MMscf/yr)	135		

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}. The emission rates used for criteria pollutant modeling were 5.69 lb/hr CO, 0.72 lb/hr NOx, 0.058 lb/hr SOx, and 0.15 lb/hr PM_{10}. The engineer supplied the maximum fuel rate for the dryer used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_X	Pass	X	X	X	Pass
SO_X	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[1]	Pass[1]
$PM_{2.5}$	X	X	X	Pass[1]	Pass[1]

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

III. Conclusion

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

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

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

IV. Attachments

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

APPENDIX VI

QNEC Calculations

QNEC Calculations

QNEC = (PE2 – BE) ÷ 4

As shown in Section VII.C.5, BE is equal to PE1 for all pollutants which is equal to zero for this project. Therefore, the equation for QNEC reduces to:

QNEC = PE2 ÷ 4

Pollutant	PE2 (lb/year)	QNEC (lb/qtr)
NOx	4,860	1,215.0
SOx	385	96.25
PM10	3,143	785.75
CO	38,610	9,652.5
VOC	743	185.75