

February 1, 2022

Frank Schubert  
Tracy Renewable Energy LLC  
PO Box 583  
Tracy, CA 95378

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: N-8887**  
**Project Number: N-1204246**

Dear Mr. Schubert:

Enclosed for your review and comment is the District's analysis of Tracy Renewable Energy LLC's application for an Authority to Construct to install two walnut-shell fired boilers, and potato receiving, handling, drying and loadout operations, at 9251 W Arbor Ave, Tracy, California.

The notice of preliminary decision for this project has been posted on the District's website ([www.valleyair.org](http://www.valleyair.org)). 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. Jag Kahlon of Permit Services at (209) 557-6452.

Sincerely,



Brian Clements  
Director of Permit Services

BC: JK

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email

**Samir Sheikh**  
Executive Director/Air Pollution Control Officer

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**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct Application Review**  
Waste Water Desalinization Plant Project

Facility Name:	Tracy Renewable Energy, LLC	Date:	January 27, 2022
Mailing Address:	P.O. Box 583 Tracy, CA 95378	Engineer:	Jag Kahlon
Contact Person:	Frank R. Schubert	Lead Engineer:	James Harader
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Application #(s):	N-8887-22-0 through '-28-0		
Project #:	N-1204246		
Deemed Complete:	May 4, 2021		

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## **I. Proposal**

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

Tracy Renewable Energy, LLC (referred in hereafter "TRE") has proposed to install two 65.6 MMBtu/hr (each) stoker grate walnut shell fired Henand Yuanda Boiler Company, Ltd., Model SZL25-1.25-T boilers. These boilers will provide steam to a closed-loop Steam Boy evaporator system to desalinize water from City of Tracy's Waste Water Treatment Plant (WWTP). Each boiler will be equipped with a urea injection system, a dry sorbent injection system, a cyclone, a baghouse and a selective catalytic reduction (SCR) system to reduce emissions. The exhaust from both boilers will be discharged through a shared stack. The stack will be equipped with continuous emissions monitoring system (CEMS) to monitor NOx, SOx, CO, and CO2 or O2 concentrations in the exhaust.

N-8887-24-0: Potato Receiving, storage and processing operations

TRE has proposed to receive several varieties of pre-washed potatoes (i.e., white potatoes, sweet potatoes, etc.) inside a material handling building from nearby orchards. The material will be unloaded from the trucks and discharged onto a conveyor that will transfer the material to a hopper bin. The material will be shredded and conveyed to a steam-operated dryer to reduce moisture.

N-8887-25-0: Potato drying and storage operations

TRE has proposed to install a steam-operated dryer to dehydrate shredded potatoes. Steam will be supplied by the boilers under permits N-8887-22 and '-23. The dryer exhaust will be vented through a cyclone. Exhaust from the cyclone will be routed through a water scrubber, prior to being discharged through the main stack serving boilers N-8887-22-0 and '-23-0 (discussed above). The dryer will reduce moisture in the shredded potatoes from approximately 80% to 11% by weight using steam-heated hot air at approximately 170°F. The dried product will be

conveyed into two silos (25 feet diameter, 22 feet tall), and the displaced air from the silos will be routed to the dryer cyclone.

N-8887-26-0: Dried-potato truck loadout operation

TRE has proposed to loadout dehydrated potatoes into the trucks using a dustless, tube-in-tube style loadout chute system. Any dust generated while transferring product into trailers through the inner tube will be vacuumed through the outer tube, which will be connected to a dust collection system. This system allows dispensing of material in the truck trailers without generating significant amount of particulate matter emissions.

N-8887-27-0: Walnut shell receiving and unloading operation

TRE has proposed to receive walnut shells in enclosed trailers from nearby walnut processing facilities. The incoming trailers will be staged on-site, and will be backed into enclosed slips prior to unload the material on an as-needed basis. The material will be slowly metered into the hoppers connected to a conveying system that feeds the boilers.

N-8887-28-0: Trona or hydrated lime receiving and storage operation

TRE has proposed to receive dry sorbent (trona or hydrated lime) via trucks and pneumatically or mechanically load the material into a silo. The laden air from the silo will be discharged through a dust collector or a bin vent filtration system.

Disposition of Outstanding ATCs

Under project N-1132068, TRE was issued permits N-8887-1-0 through '-21-0 for a new treated waste water desalinization and distiller beet-to-ethanol production plant in Tracy, California. TRE has decided to not build the plant as authorized by those ATCs. Therefore, previously issued Authority to Construct (ATC) permits (except for ATC permits N-8887-19-0 and '-21-0) will not be implemented, and ATC permits N-8887-1-0 through '-18-0 and '-21-0 are required to be cancelled prior to implementing the permits under this project.

The draft ATC permits related to this project are included in **Appendix A** of this document.

## II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4202	Particulate Matter - Emission Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4352	Solid Fuel Fired Boilers, Steam Generators, and Process Heaters (12/16/21)
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 facility will be located at 9251 W Arbor Ave, Tracy, California. The equipment will not be located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. Process Description

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

The boilers will be stoker-type units, meaning that fuel is burned on a grate as opposed to being burned in suspension or in a fluidized bed. The boilers will be equipped with a vibrating grate, upon which fuel from the charging hopper is spread using a number of distribution devices. The vibrating grate will consist of a series of grate elements in a horizontal arrangement. Half of the horizontal grate elements will be fixed and half oscillate to move fuel along the grate toward the ash discharge side of the grate. Combustion air will be injected into the combustion chamber through ports located under each grate section, while over fire air enters the combustion chamber through additional ports spaced around the combustion chamber and arranged to ensure optimal mixing and complete combustion. Bottom ash, essentially all unburned fuel residue that is too massive to become entrained in the flue gas as fly ash, will be removed from the stoker grate at the opposite end from the fuel charging hopper.

These boilers will supply steam to the closed loop evaporator system in the water desalinization process.

N-8887-24-0: Potato Receiving, storage and processing operations

TRE will receive pre-washed potatoes on a just-in-time (JIT) management basis via trucks from nearby fields. The received potatoes will be shredded and conveyed to the drying operation.

N-8887-25-0: Potato drying and storage operations

Steam will be used to heat up the air used in the dryer. The dryer air will be exhausted through a cyclone and then through a water scrubber to reduce particulate matter and VOC emissions. The dryer will reduce moisture in the shredded potatoes from approximately 80% to 11% by weight. The dried product will be conveyed into the storage silos.

N-8887-26-0: Dried-potato truck loadout operation

Dehydrated potatoes will be dispensed from the silos into the trucks using a dustless, tube-in-tube style, loadout chute system. Any dust generated from fine fragmented material during transfer will be vacuumed through the outer tube of the loadout chute system, which will be connected to a dust collection system.

N-8887-27-0: Walnut shell receiving and unloading operation

Walnut shells will be received via truck trailers from nearby walnut processing facilities. These trailers will be docked and slowly unloaded into the hoppers from where the material is conveyed into the boilers (N-8887-23 and '-24). Use of fully enclosed trailers and slow unloading will reduce particulate matter emissions. The technique is expected to result in less fugitive dust emissions compared to dumping of the material onto the ground and then using front-end loaders to load the hoppers.

N-8887-28-0: Trona or hydrated lime receiving and storage operation

TRE has proposed to receive dry sorbent (trona or hydrated lime) via trucks and pneumatically or mechanically load the material into a silo. The laden air from the silo will be discharged through a dust collector or a bin vent filtration system.

**V. Equipment Listing**

N-8887-22-0: 65.6 MMBTU/HR HENAND YUANDA BOILER CO MODEL SZL25-1.25-T, STOKER-TYPE WALNUT-SHELL FUEL FIRED BOILER WITH UREA INJECTION SYSTEM, A CYCLONE, A BAGHOUSE FILTER SYSTEM, AND A SELECTIVE CATALYTIC REDUCTION SYSTEM (BOILER #1)

N-8887-23-0: 65.6 MMBTU/HR HENAND YUANDA BOILER CO MODEL SZL25-1.25-T, STOKER-TYPE WALNUT-SHELL FUEL FIRED BOILER WITH UREA INJECTION SYSTEM, A CYCLONE, A BAGHOUSE FILTER SYSTEM, AND A SELECTIVE CATALYTIC REDUCTION SYSTEM (BOILER #2)

N-8887-24-0: POTATO RECEIVING, STORAGE AND PROCESSING OPERATIONS CONSISTING OF POTATO RECEIVING HOPPERS, SHREDDING AND ASSOCIATED CONVEYING EQUIPMENT

N-8887-25-0: POTATO PROCESSING OPERATION CONSISTING OF A STEAM-OPERATED POTATO DRYER SERVED BY A HIGH EFFICIENCY CYCLONE DISCHARGED THROUGH A WATER SCRUBBER, AND TWO ENCLOSED DRIED PRODUCT STORAGE SILOS VENTED TO THE DRYER HIGH EFFICIENCY CYCLONE AND ASSOCIATED CONVEYING EQUIPMENT

N-8887-26-0: DRIED-POTATO TRUCK LOADOUT OPERATION

N-8887-27-0: WALNUT SHELL RECEIVING AND HANDLING OPERATION

N-8887-28-0: TRONA OR HYDRATED LIME RECEIVING AND STORAGE OPERATION WITH ONE 1,300 CUBIC FOOT (APPROX. DIMENSIONS 26 FEET TALL, 8 FEET DIAMETER) SILO SERVED BY A DUST COLLECTION OR BIN VENT FILTRATION SYSTEM

## VI. Emission Control Technology Evaluation

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

The boilers will result in emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, VOC, while ammonia injection will result in ammonia “slip” emissions.

Any operation that combusts fuel has the potential to result in NO<sub>x</sub> emissions, which can come from the oxidation of fuel-bound nitrogen (“fuel NO<sub>x</sub>”) or from the oxidation of nitrogen in the combustion air at high temperature (“thermal NO<sub>x</sub>”). Fuel NO<sub>x</sub> is largely, although not directly, proportional to the fuel nitrogen content, and therefore essentially fixed in the design phase. Thermal NO<sub>x</sub> is a function of several variables, including peak combustion temperature, the residence time at peak temperature, nitrogen concentration, and oxygen concentration or flame stoichiometry.

TRE has proposed to use a selective catalytic reduction (SCR) system to reduce NO<sub>x</sub> emissions. A selective catalytic reduction system reduces NO<sub>x</sub> by reacting the NO<sub>x</sub> with ammonia in the presence of a catalyst. SCR is a well-known technology for controlling up to 90% of NO<sub>x</sub> emissions. The SCR system is expected to release some unreacted ammonia called “ammonia slip” in the exhaust gases.

SO<sub>x</sub> emissions from fuel combustion will be the result of fuel-bound sulfur being oxidized in the combustion process. TRE has proposed to use dry sorbent injection (DSI) system using trona or hydrated lime sorbent. A properly engineered DSI system will reduce up to 80% of SO<sub>x</sub> emissions.

PM<sub>10</sub> emissions from the boilers will be reduced with the use of a cyclone and a baghouse that can withstand high temperatures. The baghouse is expected to reduce at least 99% of particulate matter emissions.

CO and VOC emissions from the boilers will primarily be the result of incomplete combustion. However, highly efficient combustion that minimizes CO and VOC emissions also tends to maximize NO<sub>x</sub> emissions. TRE is expected to use good combustion practices to reduce the formation of both CO and VOC emissions. No add-on controls are proposed to reduce CO or VOC emissions.

N-8887-24-0: Potato Receiving, storage and processing operations

TRE has proposed to receive pre-washed potatoes. Pre-washed potatoes are expected to have lesser amount of soil adhered to their surface, which is expected to reduce the formation of particulate matter emissions. This operation is a source of minimal amount of PM emissions; therefore, no PM reducing techniques are proposed at this time.

N-8887-25-0: Potato drying and storage operations

The dryer exhaust will be routed through a cyclone to capture any particulate matter entrained in the exhaust. The exhaust from the cyclone will be routed to a water scrubber. The water scrubber is expected to reduce at least 95% of the PM emissions.

N-8887-26-0: Dried-potato truck loadout operation

The outer-tube of the loadout spout will be discharged through a dust collector. The dust collector is expected to reduce at least 99% of the particulate matter emissions.

N-8887-27-0: Walnut shell receiving and unloading operation

TRE has proposed to use enclosed conveyors to transfer walnut shells from hoppers to the boilers.

Walnut shells will be received via truck trailers and will never be dumped once onto the ground or stockpiled onto the ground; rather the trailers will be docked and metered slowly into the bins for conveying the material to the boilers using enclosed conveying system. This practice is expected to significantly reduce particulate matter emissions from material handling activities at this plant.

N-8887-28-0: Trona or hydrated lime receiving and storage operation

The laden air from the silo will be discharged through a dust collector or a bin vent filtration system. The system is expected to reduce at least 99% of the particulate matter emissions.

## **VII. General Calculations**

### **A. Assumptions**

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

### **B. Emission Factors**

#### **1. Pre-Project Emission Factors (EF1)**

EF1 is not available since all units in the project are new emission units.

**2. Post-Project Emission Factors (EF2)**

N-8887-22-0 and 23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler

Pollutant	EF2	Source
	lb/MMBtu	
NOx Startup & shutdown	0.0289	Proposed by the applicant
NOx steady state	0.0179	Proposed by the applicant
SOx	0.035 (block 24-hr average)	Proposed by the Applicant
	0.02 (rolling 30-day average)	
PM <sub>10</sub>	0.0036	Proposed by the Applicant
CO Startup & shutdown	0.3575	Proposed by the Applicant
CO Steady state	0.071	Per application
VOC Startup & shutdown	0.0186	Proposed by the Applicant
VOC steady state	0.0036	Proposed by the Applicant
NH <sub>3</sub>	0.0129	Per application

Note that bottom ash from the boiler grate will drop into a water trough from where it will conveyed via chain conveyor onto a stockpile. Water saturated ash will be loaded into the truck and shipped to a nearby disposal facility. Moisture content in the bottom ash will be above 6% (by wt.). Due to moist material handling, the bottom ash handling & truck loading system is considered to be an insignificant source of particulate matter emissions.

N-8887-24-0: Potato Receiving, storage and processing operations

Assumptions:

- The soil content on the surface of the pre-washed potatoes is conservatively assumed to be 5% by wt., based on the information on page 114 of Beet-Sugar Handbook by Mosen Asadi (ISBN-13: 978-0-471-76347-5).
- Distiller beets will be delivered to the plant regularly on a just-in-time processing management basis for minimal on-site storage. Therefore, the soil adhered to the beet is assumed to be wet.

The emission factor for a conveyor used at an aggregate processing plant is 0.0011 lb-PM<sub>10</sub>/ton of material per AP-42 Table 11.19.2-2 (8/04). This emission factor will be adjusted using the above information.



$$\begin{aligned} \text{EF2} &= (5 \text{ tons-material}/100 \text{ tons-beets})(0.00110 \text{ lb-PM}_{10}/\text{ton of material}) \\ &= 5.5 \times 10^{-5} \text{ lb-PM}_{10}/\text{ton of beets} \end{aligned}$$

#### N-8887-25-0: Potato drying and storage operations

Dryer:

VOC:

Per applicant, information available on a dryer at a potato drying facility in Idaho suggests that the VOC emissions from a potato dehydrating operation are 0.13 lb/hr for 32,000 lb/hr (16 tons/hr) of product processed. This means,

$$\begin{aligned} \text{EF2} &= (0.13 \text{ lb-VOC/hr}) \div (16 \text{ tons/hr}) \\ &= 0.00813 \text{ lb-VOC/ton of raw product processed} \end{aligned}$$

PM<sub>10</sub>:

The applicant has proposed to limit PM<sub>10</sub> emissions to 0.010 lb/ton of raw product processed (controlled). Thus,

$$\text{EF2} = 0.010 \text{ lb-PM}_{10}/\text{ton of raw product processed}$$

Storage silos:

The dried product will be conveyed into two silos. The silos will be sealed and vented to the cyclone serving the potato dryer. The cyclone will be discharged through a water scrubber, capable of removing at least 95% of PM<sub>10</sub> emissions. EPA's AP-42 Table 9.9.1-1 (3/03) lists emissions of 0.0063 lb-PM<sub>10</sub>/ton of dried material for a storage bin (vent, uncontrolled). Using the emission factor and the expected control efficiency, the emissions from silo loading operation would be:

$$\begin{aligned} \text{EF2} &= (0.0063 \text{ lb-PM}_{10}/\text{ton of dried material conveyed})(1-0.95) \\ &= 0.000315 \text{ lb-PM}_{10}/\text{ton of dried material} \end{aligned}$$

#### N-8887-26-0: Dried-potato truck loadout operation

EPA's AP-42 Table 9.9.1-2 (3/03) lists an uncontrolled emission factors of 0.0008 lb-PM<sub>10</sub>/ton of product for feed shipping operation. The dehydrated potatoes will be loaded into the trucks using dustless, tube-in-tube style, loadout chute system with a skirt at the bottom. This system is expected to reduce at least 98% of the PM<sub>10</sub> emissions, as noted in project N-1203826. Thus,

$$\begin{aligned} \text{EF2} &= (0.0008 \text{ lb-PM}_{10}/\text{ton of product}) (1-0.98) \\ &= 0.000016 \text{ lb-PM}_{10}/\text{ton of product} \end{aligned}$$

#### N-8887-27-0: Walnut shell receiving and unloading operation

As stated previously, enclosed trailers will be backed into an enclosed slip prior to unload material enclosed hoppers, and convey it to the boilers.

An uncontrolled emission factor of 0.0011 lb-PM<sub>10</sub>/ton of material from EPA's AP-42 Table 11.19.2-2 for a conveyor transfer point will be adjusted using the density of walnut shells and the density of aggregate material. The walnut shell density is 40-45 lb/ft<sup>3</sup>

whereas the aggregate material density is 102 lb/ft<sup>3</sup>. After applying the density adjustments, the uncontrolled emissions from each transfer point would be 0.0005 lb-PM<sub>10</sub>/ton of material (0.0011\*45/102).

$$EF2 = 0.0005 \text{ lb-PM}_{10}/\text{ton of material}$$

N-8887-28-0: Trona or hydrated lime receiving and storage operation

Trona or hydrated lime will be received via truck and loading into a silo via pneumatic or mechanical screw conveyors.

Pneumatic transfer operation resemble to 'cement supplement unloading to elevated silo'. Therefore, a controlled emission factor of 0.0049 lb-PM<sub>10</sub>/ton of material from EPA's AP-42 Table 11.12-2 (6/06) can be used.

The emission factor for a similar operation transferring material using screw conveyors is 0.00039 lb-PM<sub>10</sub>/ton, as noted under project N-1101175.

To be conservative, it is assumed that the facility will unload the material using pneumatic conveying system. Thus,

$$EF2 = 0.0049 \text{ lb-PM}_{10}/\text{ton of material}$$

**C. Calculations**

**1. Pre-Project Potential to Emit (PE1)**

Since the proposed emission units are new emissions units, PE1 is zero for each pollutant.

**2. Post-Project Potential to Emit (PE2)**

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

Per the applicant, the maximum startup duration will be 12 hr/day, 24 hr/year, and the maximum shutdown duration will be 12 hr/day and 24 hr/year. The applicant wants to operate each unit up to 350 days/yr, which equates to 8,400 hr/year.

NOx, CO and VOC

Startup/Shutdown

$$PE2_{\text{hourly}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr}$$

$$PE2_{\text{daily}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr} \times 12 \text{ hr/day}$$

$$PE2_{\text{annual}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr} \times 24 \text{ hr/yr}$$

Steady-state

$$PE2_{\text{hourly}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr}$$

$$PE2_{\text{daily}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr} \times 24 \text{ hr/day}$$

$$PE2_{\text{annual}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr} \times (8,400 - 24 - 24) \text{ hr/yr}$$

SOx

Startup/Shutdown/Steady-state

$PE2_{\text{hourly}} = EF2_{\text{Block 24-hr avg}} \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr}$

$PE2_{\text{daily}} = EF2_{\text{Block 24-hr avg}} \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr} \times 24 \text{ hr/day}$

$PE2_{\text{annual}} = EF2_{\text{Rolling 30-day avg}} \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr} \times 8,400 \text{ hr/yr}$

PM<sub>10</sub> and NH<sub>3</sub>

Startup/Shutdown/Steady-state

$PE2_{\text{hourly}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr}$

$PE2_{\text{daily}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr} \times 24 \text{ hr/day}$

$PE2_{\text{annual}} = EF2 \text{ (lb/MMBtu)} \times 65.6 \text{ MMBtu/hr} \times 8,400 \text{ hr/yr}$

Pollutant	Event	EF2 (lb/MMBtu)	PE2 (lb/hr)	PE2 (lb/day)	PE2 (lb/yr)
NOx	Startup	0.0289	1.896	22.8	46
	Steady-state	0.0179	1.174	28.2	9,807
	Shutdown	0.0289	1.896	22.8	46
Total:			1.896 (max)	45.6	9,899
SOx	Startup, steady-state, or shutdown	0.035	2.296	55.1	--
		0.02	--	--	11,021
Total:			2.296 (max)	55.1	11,021
PM <sub>10</sub>	Startup, steady-state, or shutdown	0.0036	0.236	5.7	1,984
CO	Startup	0.3575	23.452	281.4	563
	Steady-state	0.071	4.658	55.9	38,900
	Shutdown	0.3575	23.452	281.4	563
Total:			23.452 (max)	562.8	40,026
VOC	Startup	0.0186	1.220	14.6	29
	Steady-state	0.0036	0.236	5.7	1,972
	Shutdown	0.0186	1.220	14.6	29
Total:			1.220 (max)	29.2	2,030
NH <sub>3</sub>	Startup, steady-state, or shutdown	0.0129	0.846	20.3	7,108

Commissioning period:

TRE has proposed to conduct commissioning activities, including but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable steady state operation of each boiler and associated equipment. During the commissioning activities, the applicant has proposed to limit hourly and daily emissions rate of each pollutant (NOx, SOx, PM<sub>10</sub>, CO, VOC and NH<sub>3</sub>) to the maximum emissions estimated in the above table.

NOx, SOx, and CO emissions during commissioning period will be measured using the CEMS systems. PM<sub>10</sub>, VOC and NH<sub>3</sub> emissions will be estimated using EFs obtained during the initial source testing, heat input rate to the boiler, and hours of operation during the commissioning period. The emissions occurred during commissioning period are required to be counted toward annual emission limits.

N-8887-24-0: Potato Receiving, storage and processing operations

Each truck load is 25 tons. The facility is planning to receive up to 32 truck loads per day. This means, the potato receiving rate could be up to 800 tons/day and 280,000 tons/yr (over 350 days/yr operation). The hourly load rate is assumed to be 33.3 tons (800 tons/day ÷ 24 hr/day).

$$\begin{aligned} \text{PE2 (lb/hr)} &= (5.5 \times 10^{-5} \text{ lb-PM}_{10}/\text{ton of beets})(33.3 \text{ tons/hr}) \\ &= 0.0018 \text{ lb-PM}_{10}/\text{hr} \end{aligned}$$

$$\begin{aligned} \text{PE2 (lb/day)} &= (5.5 \times 10^{-5} \text{ lb-PM}_{10}/\text{ton of beets})(800 \text{ tons/day}) \\ &= 0.044 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{PE2 (lb/yr)} &= (5.5 \times 10^{-5} \text{ lb-PM}_{10}/\text{ton of beets})(280,000 \text{ tons/yr}) \\ &= 15 \text{ lb-PM}_{10}/\text{yr} \end{aligned}$$

N-8887-25-0: Potato drying and storage operations

Dryer:

VOC:

Per applicant, the dryer process rate would be 27 tons/hr, 246 tons/day and 86,100 tons/yr. Thus,

$$\begin{aligned} \text{PE2 (lb/hr)} &= (0.00813 \text{ lb-VOC}/\text{ton of raw product processed})(27 \text{ tons/hr}) \\ &= 0.22 \text{ lb-VOC}/\text{hr} \end{aligned}$$

$$\begin{aligned} \text{PE2 (lb/day)} &= (0.00813 \text{ lb-VOC}/\text{ton of raw product processed})(246 \text{ tons/day}) \\ &= 2.0 \text{ lb-VOC}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{PE2 (lb/yr)} &= (0.00813 \text{ lb-VOC}/\text{ton of raw product processed})(86,100 \text{ tons/yr}) \\ &= 700 \text{ lb-VOC}/\text{yr} \end{aligned}$$

PM<sub>10</sub>:

$$\begin{aligned} \text{PE2 (lb/hr)} &= (0.010 \text{ lb-PM}_{10}/\text{ton of raw product processed})(27 \text{ tons/hr}) \\ &= 0.27 \text{ lb-PM}_{10}/\text{hr} \end{aligned}$$

$$\begin{aligned} \text{PE2 (lb/day)} &= (0.010 \text{ lb-PM}_{10}/\text{ton of raw product processed})(246 \text{ tons/hr}) \\ &= 2.5 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{PE2 (lb/yr)} &= (0.010 \text{ lb-PM}_{10}/\text{ton of raw product processed})(86,100 \text{ tons/yr}) \\ &= 861 \text{ lb-PM}_{10}/\text{yr} \end{aligned}$$

Storage silos:

Per applicant, dried material convey rate into the silos would be 8.37 tons/hr, 76.26 tons/day and 26,691 tons/year. Thus,

$$\begin{aligned} \text{PE2 (lb/hr)} &= (0.000315 \text{ lb-PM}_{10}/\text{ton of dried material})(8.37 \text{ tons/hr}) \\ &= 0.003 \text{ lb-PM}_{10}/\text{hr for both silos} \end{aligned}$$

PE2 (lb/day) = (0.000315 lb-PM<sub>10</sub>/ton of dried material conveyed)(76.26 tons/day)  
 = 0.024 lb-PM<sub>10</sub>/day for both silos

PE2 (lb/yr) = (0.000315 lb-PM<sub>10</sub>/ton of dried material conveyed)(26,691 tons/yr)  
 = 8 lb-PM<sub>10</sub>/yr for both silos

N-8887-26-0: Dried-potato truck loadout operation

Per applicant, truck loadout rate will be 6.75 tons/hr, 162 tons/day and 26,691 tons/yr.

PE2 (lb/hr) = (0.000016 lb-PM<sub>10</sub>/ton of product)(6.75 tons/hr)  
 = 0.00011 lb-PM<sub>10</sub>/hr

PE2 (lb/day) = (0.000016 lb-PM<sub>10</sub>/ton of product)(162 tons/day)  
 = 0.0 lb-PM<sub>10</sub>/day

PE2 (lb/yr) = (0.000016 lb-PM<sub>10</sub>/ton of product)(26,691 tons/yr)  
 = 0.4 lb-PM<sub>10</sub>/yr  
 ~ 0 lb-PM<sub>10</sub>/yr

N-8887-27-0: Walnut shell receiving and unloading operation

PE2 (lb/hr) = EF2 (lb-PM<sub>10</sub>/ton of material) x 8 tons/hr

PE2 (lb/day) = EF2 (lb-PM<sub>10</sub>/ton of material) x 192 tons/day

PE2 (lb/yr) = EF2 (lb-PM<sub>10</sub>/ton of material) x 67,200 tons/yr

Operation	EF2 (lb-PM <sub>10</sub> /ton of material)	PE2 (lb/hr)	PE2 (lb/day)	PE2 (lb/yr)
Transfer (metering) of walnut shells from trailers to hoppers	0.0005	0.004	0.1	34
Hoppers to an elevators	0.0005	0.004	0.1	34
Enclosed elevators to enclosed conveyors that delivers material to the boilers	0.0005	0.004	0.1	34
Total:		0.012	0.3	102

N-8887-28-0: Trona or hydrated lime receiving and storage operation

The applicant has indicated that they will receive a truck load (25 tons) of material during a given day. It is assumed that a truck delivery can be unloaded in an hour. Thus,

PE2 (lb/hr) = EF2 (lb-PM<sub>10</sub>/ton of material) x 25 tons/hr

PE2 (lb/day) = EF2 (lb-PM<sub>10</sub>/ton of material) x 25 tons/day

Using worst-case operating scenario 365 days/year, the annual emissions would be:

PE2 (lb/yr) = EF2 (lb-PM<sub>10</sub>/ton of material) x 25 tons/day x 365 days/yr

Operation	EF2 (lb-PM <sub>10</sub> /ton of material)	PE2 (lb/hr)	PE2 (lb/day)	PE2 (lb/yr)
Receive trona or hydrated lime sorbents	0.0049	0.123	0.1	45

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

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site. As stated previously, except for permits N-8887-19 and '-21-0, TRE is not going to implement the ATCs issued under project N-1132068. Therefore, potential emissions from only permit units N-8887-19 and '-21 are included in the following table.

SSPE1 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
N-8887-19-0	0	0	876	0	0
N-8887-21-0	141	0	5	47	5
<b>SSPE1</b>	<b>141</b>	<b>0</b>	<b>881</b>	<b>47</b>	<b>5</b>

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

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

SSPE2 (lb/year)						
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC	NH <sub>3</sub>
N-8887-19-0	0	0	876	0	0	--
N-8887-21-0	141	0	5	47	5	--
N-8887-22-0	9,899	11,021	1,984	40,026	2,030	7,108
N-8887-23-0	9,899	11,021	1,984	40,026	2,030	7,108
N-8887-24-0	0	0	15	0	0	--
N-8887-25-0	0	0	869 (861+8)	0	700	--
N-8887-26-0	0	0	0	0	0	--
N-8887-27-0	0	0	102	0	0	--
N-8887-28-0	0	0	45	0	0	0
<b>SSPE2</b>	<b>19,939</b>	<b>22,042</b>	<b>5,880</b>	<b>80,099</b>	<b>4,765</b>	<b>14,216</b>

**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), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

<b>Rule 2201 Major Source Determination (lb/year)</b>						
	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>*PM<sub>2.5</sub></b>	<b>CO</b>	<b>VOC</b>
SSPE1	141	0	881	881	47	5
SSPE2	19,939	22,042	5,880	5,880	80,099	4,765
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

\*PM2.5 assumed to be equal to PM10

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

**Rule 2410 Major Source Determination:**

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

<b>PSD Major Source Determination (tons/year)</b>						
	<b>NO<sub>2</sub></b>	<b>VOC</b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Estimated Facility PE before Project Increase	0.1	0.0	0.0	0.0	0.4	0.4
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

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

## **6. Baseline Emissions (BE)**

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

N-8887-22-0 through '-28-0:

Since the emission units in this project are new emission units, BE is zero for each pollutant.

## **7. SB 288 Major Modification**

40 CFR Part 51.165 defines a SB 288 Major Modification 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.

Per section VII.C.5 above, this facility is not a Major Source for any pollutant addressed in this project. Thus, this project does not constitute an SB 288 major modification and no further discussion is required.

## **8. Federal Major Modification / New Major Source**

### **Federal Major Modification**

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

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is 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. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.



Per section VII.C.5 above, this facility is not a Major Source for any pollutant. Thus, this project does not constitute a Federal Major Modification and no further discussion is required.

**New Major Source**

As demonstrated above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to 40 CFR 51.165 a(1)(iv)(A)(3).

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

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

- NO<sub>2</sub> (as a primary pollutant)
- SO<sub>2</sub> (as a primary pollutant)
- CO
- PM
- PM<sub>10</sub>

**I. Project Emissions Increase - New Major Source Determination**

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

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

<b>PSD Major Source Determination: Potential to Emit (tons/year)</b>						
	<b>NO<sub>2</sub></b>	<b>VOC</b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Total PE from New and Modified Units	9.9	2.4	11.0	40.0	2.5	2.5
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

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

## 10. Quarterly Net Emissions Change (QNEC)

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

## VIII. Compliance Determination

### Rule 1080 Stack Monitoring

This rule grants the APCO the authority to request the installation, use, maintenance, and inspection of continuous emissions monitors, and specifies performance standards for the equipment and administrative requirements for recordkeeping, reporting, and notification.

TRE has proposed to monitor NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> or CO<sub>2</sub> concentrations using continuous emissions monitoring system (CEMS) for each boiler. The following conditions will be included in boiler permits:

- The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Emissions Monitoring System (CEMS) which continuously measures and records the exhaust gas NO<sub>x</sub>, SO<sub>x</sub>, CO and O<sub>2</sub> or CO<sub>2</sub> concentrations for each boiler. CEMS shall monitor emissions during all types of operation, including during startup and shutdown periods, provided the CEMS passes the relative accuracy requirement specified herein during startups and shutdowns periods. If relative accuracy of CEMS cannot be demonstrated during startup or shutdown periods, CEMS results during startup and shutdown events shall be replaced with startup emission rates obtained during initial source testing. [District Rules 1080, 2201 and 4352]
- Each CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rules 1080, 2201, and 4352]
- Each CEMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 for CEMS and Part 60, Appendix B Performance Specification 6 (PS6), or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rules 1080, 2201 and 4352]
- In accordance with 40 CFR Part 60, Appendix F, NO<sub>x</sub>, SO<sub>x</sub>, CO and O<sub>2</sub> or CO<sub>2</sub> monitors must be audited at least once each calendar quarter, by conducting cylinder gas audits (CGA) or relative accuracy audits (RAA). CGA or RAA may be conducted three of four calendar quarters, but no more than three calendar quarters in succession. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rules 1080, 2201 and 4352]

- The owner/operator shall perform a RATA for NO<sub>x</sub>, SO<sub>x</sub>, CO and O<sub>2</sub> or CO<sub>2</sub> (as specified in 40 CFR Part 60, Appendix F) and flow rate sensor at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the CEMS equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F for CEMS equipment. [District Rules 1080, 2201, and 4352]
- APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080]
- The CEMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rules 1080, 2201 and 4352]
- Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CEMS. This summary shall be in the form and the manner prescribed by the District. [District Rules 1080 and 2201]
- The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEMS data polling software system and shall make CEMS data available to the District's automated polling system on a daily basis. [District Rules 1080, 2201 and 4352]
- Upon notice by the District that the facility's CEMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEMS data is sent to the District by a District-approved alternative method. [District Rule 1080]
- The permittee shall maintain the following records for CEMS equipment: (1) Date, time and duration of any malfunction; (2) Date of performance testing; (3) Date of evaluations, calibrations, checks, and adjustments; and (4) Date and time period for which CEMS was inoperative. [District Rules 1080, 2201 and 4352]
- The owner or operator shall maintain records of NO<sub>x</sub>, SO<sub>x</sub> and CO emissions and submit a written report each calendar quarter to the District containing the following information for each operating day: (1) Calendar date; (2) NO<sub>x</sub> (expressed as NO<sub>2</sub>), SO<sub>x</sub> and CO emission rate (lb/hr) measured at the exhaust of each boiler; (3) NO<sub>x</sub> (expressed as NO<sub>2</sub>), SO<sub>x</sub> and CO emissions rate factor (lb/MMBtu, over a block 24-hour average basis), (4) Total daily NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/day) calculated at the end of each operating day from the measured total hourly NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates; (5) The 30-day rolling average SO<sub>x</sub> emission rate (lb/MMBtu); (6) The total monthly NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/month) calculated at the end of each month using total daily NO<sub>x</sub>, SO<sub>x</sub> and CO emissions rates; (7) The total annual NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/year, on a rolling 12-month basis) calculated at the end of each month using total monthly NO<sub>x</sub> emission rate; (8) Identification of the operating days when NO<sub>x</sub>, SO<sub>x</sub> and CO

emission rates are in excess of the permitted levels, with the reasons for such excess emissions as well as a description of corrective actions taken; (9) Identification of the operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (10) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding such data; (11) Identification of each parameter used in calculations; (12) Identification of the times when the pollutant concentration exceeded full span of the CEMS; (13) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 6; (14) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of Part 60; and (15) A negative declaration when no excess emissions occurred. The report is due on the 30th day following the end of the calendar quarter. [District Rules 1080, 2201 and 4352]

- The owner or operator may submit electronic quarterly reports in lieu of submitting the written reports. The format of each quarterly electronic report shall be coordinated with the District. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this permit was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the District to obtain their agreement to submit reports in this alternative format. [District Rules 1080, 2201 and 4352]

Compliance is expected with this rule.

## **Rule 2201 New and Modified Stationary Source Review Rule**

### **A. Best Available Control Technology (BACT)**

#### **1. BACT Applicability**

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

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

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

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

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

Per section VII.C.2 above, PE2 is greater than 2 lb/day for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC emissions. The facility's total CO emissions do not exceed 200,000 lb/yr. Thus, BACT is triggered for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub> and VOC emissions.

N-8887-24-0: Potato Receiving, storage and processing operations

Per section VII.C.2 above, PE2 is not greater than 2 lb/day for PM<sub>10</sub> emissions. Thus, BACT is not triggered.

N-8887-25-0: Potato drying and storage operations

Dryer:

VOC:

Per section VII.C.2 above, PE2 is not greater than 2 lb/day for VOC emissions. Thus, BACT is not triggered.

PM<sub>10</sub>:

Per section VII.C.2 above, PE2 is greater than 2 lb/day for PM<sub>10</sub> emissions. Thus, BACT is triggered.

Storage silos:

Per section VII.C.2 above, PE2 from each silo is not greater than 2 lb/day for PM<sub>10</sub> emissions. Thus, BACT is not triggered.

N-8887-26-0: Dried-potato truck loadout operation

Per section VII.C.2 above, PE2 is not greater than 2 lb/day for PM<sub>10</sub> emissions. Thus, BACT is not triggered.

N-8887-27-0: Walnut shell receiving and unloading operation

Per section VII.C.2 above, PE2 is not greater than 2 lb/day for PM<sub>10</sub> emissions for any source operation. Thus, BACT is not triggered.

N-8887-28-0: Trona or hydrated lime receiving and storage operation

Per section VII.C.2 above, PE2 is not greater than 2 lb/day for PM<sub>10</sub> emissions for this operation. Thus, BACT is not triggered.

**b. Relocation of emissions units – PE > 2 lb/day**

None of the emissions units are being relocated from one stationary source to another; therefore BACT is not triggered.

**c. Modification of emissions units – AIPE > 2 lb/day**

None of the emission units are being modified emissions in this project. Therefore BACT is not triggered.

**d. SB 288/Federal Major Modification**

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for any pollutant. Therefore BACT is not triggered for any pollutant.

**2. BACT Guideline**

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

The District prepared a detailed BACT analysis under project N-1180873 (April 3, 2019) for a solid fuel (biomass) fired boiler. The achieved-in-practice standards and the technically feasible controls identified in the BACT analysis under project N-1180873 will be used to evaluate BACT for the proposed boilers.

N-8887-25-0: Potato drying and storage operations

BACT guideline 5.2.6, feed mill – high moisture grain pelletizing & drying operation (see **Appendix B**), closely represent the process being proposed in this project. Therefore, this guideline will be used to address BACT for P<sub>M10</sub> emissions.

**3. Top-Down BACT Analysis**

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District Rule 2201.

N-8887-22-0 and 23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler

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

NO<sub>x</sub>:

Achieved-in-practice:

- 0.065 lb/MMBtu, block 24-hour average (selective catalytic reduction for 90% control efficiency, or equal, and natural gas auxiliary fuel)

Technologically feasible:

- None

TRE has proposed to achieve 0.0179 lb/MMBtu during steady state and 0.0289 lb/MMBtu during startup using urea injection system and a selective catalytic reduction system. Thus, this proposal complies with the BACT requirements.

SO<sub>x</sub>:

Achieved-in-practice:

- 0.035 lb/MMBtu on a block 24-hour average basis & 0.02 lb/MMBtu on a rolling 30-day average basis (limestone injection for 80% control efficiency, or equal, and natural gas auxiliary fuel)

Technologically Feasible:

- 0.001 lb/MMBtu, block 24-hour average (wet flue gas desulfurization for 98% control efficiency, or equal, and natural gas auxiliary fuel)

The applicant has proposed to achieve 0.035 lb/MMBtu (block 24-hour average) and 0.02 lb/MMBtu (rolling 30-day average) during startup, steady state and shutdown periods. Since the proposed limit at or below the achieved-in-practice standard, this proposal complies with the BACT requirements.

Note that the use of technologically feasible option to achieve 0.001 lb/MMBtu standard is not cost-effective, and therefore, it is not required for this project.

PM<sub>10</sub>

Achieved-in-practice:

- 0.0214 lb/MMBtu, 30-minute average (multiclone and electrostatic precipitator or baghouse, or equal, and natural gas auxiliary fuel)

Technologically Feasible:

None

The applicant has proposed to achieve 0.0036 lb/MMBtu during startup, steady-state and shutdown periods. Since the proposed limit is below the achieved-in-practice standard, this proposal complies with the BACT requirements.

VOC

Achieved-in-practice:

- 0.009 lb/MMBtu, 30-minute average (good combustion practices and natural gas auxiliary fuel)

Technologically Feasible:

None

The applicant has proposed to achieve 0.0036 lb/MMBtu during steady-state state period. Thus, this proposal complies with the BACT requirements.

N-8887-25-0: Potato drying and storage operations

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

Achieved-in-practice:

- High efficiency cyclone and high moisture feed (0.02 lb-PM10/ton of product dried)

Technologically Feasible:

None

The applicant has proposed to discharge the exhaust from the dryer through a high efficiency cyclone to achieve an emission rate of 0.010 lb-PM<sub>10</sub>/ton of material. Thus, this proposal complies with the BACT requirements.

**B. Offsets**

**1. Offset Applicability**

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

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

Offset Determination (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	19,939	22,042	5,880	80,099	4,673
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	No	No	No	No	No

**2. Quantity of District Offsets Required**

As discussed above, the SSPE2 is not greater than the offset threshold for any pollutant, therefore, District offsets are not triggered. In addition, as demonstrated above, this project does not trigger Federal Major Modification or New Major Source requirements.

In conclusion, offsets will not be required for this project and no further discussion is required.

**C. Public Notification**

**1. Applicability**

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

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



e. Any project which results in a Title V significant permit modification

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

Per sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 or a Federal Major Modification, or a New Major Source. Consequently, public noticing is not required under this section.

**b. PE > 100 lb/day**

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements.

As seen in Section VII.C.2 above, the potential CO emissions from unit N-8887-22 and '-23 (each) are greater than 100 lb/day, therefore public noticing for PE > 100 lb/day purposes is required.

**c. Offset Threshold**

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	141	19,939	20,000 lb/year	No
SO <sub>x</sub>	0	22,042	54,750 lb/year	No
PM <sub>10</sub>	881	5,880	29,200 lb/year	No
CO	47	80,099	200,000 lb/year	No
VOC	5	4,765	20,000 lb/year	No

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

**d. SSIPE > 20,000 lb/year**

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	19,939	141	19,798	20,000 lb/year	No
SO <sub>x</sub>	22,042	0	22,042	20,000 lb/year	Yes
PM <sub>10</sub>	5,880	881	4,999	20,000 lb/year	No
CO	80,099	47	80,052	20,000 lb/year	Yes
VOC	4,765	5	4,760	20,000 lb/year	No
NH <sub>3</sub>	14,216	0	14,216	20,000 lb/year	No

As seen in the table above, the SSIPE for SO<sub>x</sub> and CO (each) are greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

**e. Title V Significant Permit Modification**

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

**2. Public Notice Action**

As discussed above, public noticing is required for this project. Public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District’s website prior to the issuance of the ATCs under this project.

**D. Daily Emission Limits (DELs)**

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

**Proposed Rule 2201 (DEL) Conditions:**

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

The following condition will be included in the above permits:

- Only walnut shells shall be used as fuel in this boiler. [District Rules 2201 and 4102]

Startup/shutdown:

- Upon completing commissioning period, startup period shall not exceed any of the following limits: 12 hours during any one day and 24 hours per calendar year. [District Rules 2201 and 4352]
- Upon completing commissioning period, shutdown period shall not exceed any of the following limits: 12 hours during any one day and 24 hours per calendar year. [District Rules 2201 and 4352]
- Upon completing commissioning period, during periods of startup and shutdown, emissions from this boiler shall not exceed any of the following limits: 0.0289 lb-NOx/MMBtu (expressed as NO<sub>2</sub>), 0.3575 lb-CO/MMBtu, and 0.0186 lb-VOC/MMBtu (expressed as CH<sub>4</sub>), all emission limits averaged over the entire startup or shutdown period. [District Rule 2201]

Steady-state:

- Upon completing commissioning period, except during periods of startup and shutdown, emissions from this boiler shall not exceed any of the following limits: 0.0179 lb-NOx/MMBtu (expressed as NO<sub>2</sub>) over a block 24-hour average basis, 0.071 lb-CO/MMBtu over a block 24-hour average basis, 0.0036 lb-VOC/MMBtu (expressed as CH<sub>4</sub>) over a 30-minute period. [District Rules 2201 and 4352]

Startup/steady state/shutdown:

- Upon completing commissioning period, during periods of startup, shutdown or steady state, emissions from this boiler shall not exceed any of the following limits: 0.035 lb-SOx/MMBtu (expressed as SO<sub>2</sub>) on a block 24-hour average basis and 0.02 lb-SOx/MMBtu (expressed as SO<sub>2</sub>) on a rolling 30-day average basis, and 0.0036 lb-PM<sub>10</sub>/MMBtu (both filterable and condensable). [District Rules 2201 and 4352]
- Upon completing commissioning period, during periods of startup, shutdown or steady state, ammonia (NH<sub>3</sub>) slip emissions associated with boiler's NOx control system shall not exceed 0.0129 lb/MMBtu. [District Rule 2201]

Commissioning Period:

- Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable steady state operation of the boiler and associated system. [District Rule 2201]
- Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the boiler is first fired, whichever occurs first. The commissioning period shall terminate when the boiler has completed initial source testing, completed final boiler tuning, and is available for commercial operation. [District Rule 2201]

- During the commissioning period, the emission rates from the boiler system shall not exceed any of the following limits: NO<sub>x</sub> (as NO<sub>2</sub>) - 1.896 lb/hr and 45.6 lb/day; VOC (as CH<sub>4</sub>) – 1.22 lb/hr and 29.2 lb/day; CO – 23.452 lb/hr and 562.8 lb/day; PM<sub>10</sub> – 0.236 lb/hr and 5.7 lb/day; SO<sub>x</sub> (as SO<sub>2</sub>) – 2.296 lb/hr and 55.1 lb/day or NH<sub>3</sub> (from SCR system) – 0.846 lb/hr and 20.3 lb/day. [District Rule 2201]
- During commissioning period, NO<sub>x</sub>, CO and SO<sub>x</sub> emissions rate shall be monitored and recorded using installed and calibrated CEMS. [District Rule 2201]
- Commissioning period PM<sub>10</sub>, VOC and NH<sub>3</sub> emissions rate shall be estimated using emission factors (lb/MMBtu) from the initial source testing, actual fuel heat input rate (MMBtu/hr), and hour of operation (hr/day). [District Rule 2201]
- The total annual mass emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, VOC and NH<sub>3</sub> emissions that are emitted during the commissioning period shall accrue towards the annual emission limits. [District Rule 2201]

Note that records of date, type of commissioning activity, heat input rate to the boiler, hours of operation, and hourly, daily and up-to-date annual mass emission rates are required for each pollutant during commissioning period.

In addition, the following condition will ensure on-going compliance with the annual emission rates:

- Emissions from this boiler shall not exceed any of the following limits: 9,899 lb-NO<sub>x</sub>/year (expressed as NO<sub>2</sub>), 11,021 lb-SO<sub>x</sub>/year (expressed as SO<sub>2</sub>), 1,984 lb-PM<sub>10</sub>/year, 40,026 lb-CO/year, 2,030 lb-VOC/year (expressed as CH<sub>4</sub>) and 7,108 lb-NH<sub>3</sub>/year. These limits are on a 12 consecutive month rolling basis. Compliance with NO<sub>x</sub>, CO and SO<sub>x</sub> limits shall be determined from CEMS data. Compliance with PM<sub>10</sub>, VOC and NH<sub>3</sub> limits shall be calculated using emission factors (the most recent source test results), actual heat input to the boiler, and actual operating time. [District Rule 2201]
- During all types of operation, ammonia injection into the SCR system shall occur once the minimum temperature established during the initial source testing at the catalyst face has been reached to ensure NO<sub>x</sub> emission reductions can occur with a reasonable level of ammonia slip. The minimum temperature established during the initial testing shall be administratively included in the permit to operate. The established temperature may be modified administratively as necessary following any replacement of the SCR catalyst material. [District Rule 2201]
- 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]

N-8887-24-0: Potato Receiving, storage and processing operations

- PM<sub>10</sub> emissions from this permit unit shall not exceed 0.000055 pounds per ton of potatoes received. [District Rule 2201]

- The amount of potatoes received shall not exceed any of the following limits: 800 tons/day and 280,000 tons/year. [District Rule 2201]
- Only pre-washed potatoes that are free of orchard soil and debris shall be received at this site. [District Rule 2201 and 4102]

N-8887-25-0: Potato drying and storage operations

Dryer:

- VOC emissions from the dryer shall not exceed 0.00813 pounds per ton of raw potatoes processed. [District Rule 2201]
- PM<sub>10</sub> emissions from the dryer shall not exceed 0.010 pounds per ton of raw potatoes processed. [District Rule 2201]
- The amount of raw potatoes processed through the dryer shall not exceed any of the following limits: 246 tons/day and 86,100 tons/year. [District Rule 2201]

Storage silos:

- PM<sub>10</sub> emissions from the storage silos shall not exceed 0.000315 pounds per ton of dried potatoes conveyed into the silos. [District Rule 2201]
- The total amount of dried potatoes conveyed into both silos shall not exceed any of the following limits: 76.26 tons/day and 26,691 tons/year. [District Rule 2201]

N-8887-26-0: Dried-potato truck loadout operation

- PM<sub>10</sub> emissions from the truck trailer loading operation released through the dust collector shall not exceed 0.000016 pounds per ton of dried potatoes loaded into the truck trailer. [District Rule 2201]
- The amount of dried potatoes loaded into the truck trailer shall not exceed any of the following limits: 162 tons/day and 26,691 tons/year. [District Rule 2201]

In addition, the following condition will be included to ensure the material loading shall be conducted in a manner that would minimize particulate matter emissions:

- Dried potatoes shall be loaded into truck trailers using an engineered telescopic spout consisting of inner and outer sleeve. The inner sleeve shall have cascade style (or other similar style) buckets to convey the material from the silo to the truck trailer. The outer sleeve shall have skirt made up of neoprene or other similar durable material connected at the end of the sleeve. The outer sleeve shall be discharged into a dust collector system. The dust collection system shall have sufficient vacuum to capture dust generated from conveying material dropping through the cascade style buckets (other similar style) in the inner sleeve. The telescopic spout shall be operated in a manner that maintains minimum drop height of the material such that the loading process remains in compliance with visible emission limit(s) in this permit. [District Rule 2201]

N-8887-27-0: Walnut shell receiving and unloading operation

- $PM_{10}$  emissions from walnut shell receiving and transferring operations shall not exceed 0.001563 pounds per ton of material processed. [District Rule 2201]
- The amount of walnut shells received shall not exceed any of the following limits: 192 tons/day and 67,200 tons/year. [District Rule 2201]

N-8887-28-0: Trona or hydrated lime receiving and storage operation

- $PM_{10}$  emissions from trona or hydrated lime material receiving and storage operation shall not exceed 0.0049 pounds per ton of material processed. [District Rule 2201]
- The amount of both trona and hydrated lime material shall not exceed any of the following limits: 25 tons per day and 9,125 tons per year. [District Rule 2201]

**E. Compliance Assurance**

**1. Source Testing**

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

District Policy APR-1705 requires that the cogeneration and resource recovery facilities utilizing external combustion boilers or turbines must be tested upon initial start-up and annually thereafter.  $NO_x$ ,  $PM_{10}$  and CO shall be tested for all units,  $SO_x$  for units fired on liquid or solid fuel, and VOC for units fired on waste gas which contains VOCs. Note that the District has historically required to also test VOC emissions from biomass-fired boilers.

Startup/shutdown:

To verify compliance with the proposed  $NO_x$ , CO and VOC emissions, each boiler is required to be tested within 60 days of initial startup.

Steady state:

To verify compliance with the proposed  $NO_x$ , CO,  $PM_{10}$ ,  $SO_x$  and VOC emissions, each boiler is required to be tested within 60 days of initial startup and at least once every 12-months thereafter.

N-8887-24-0: Potato Receiving, storage and processing operations

The potential emissions are estimated using generally accepted emission factors; therefore, source testing is not required for this operation.

N-8887-25-0: Potato drying and storage operations

Dryer:

To verify the proposed VOC and  $PM_{10}$  emission factors, source testing is required to be conducted within 60 days of initial startup. No periodic testing is required.

Storage silos:

The potential emissions are estimated using generally accepted emission factors; therefore, source testing is not required for this operation.

N-8887-26-0: Dried-potato truck loadout operation

District Policy APR-1705 requires that non-combustion equipment served by a baghouse or dust collector with expected PM<sub>10</sub> emissions of 30 pounds per day or greater must be tested upon initial start-up. Units with PM<sub>10</sub> emissions in excess of 70 pounds per day should also be tested on annual basis.

Per section VII.C.2 above, the potential PM<sub>10</sub> emissions from this operation are below 30 pounds per day. Thus, source testing is not required for this operation.

N-8887-27-0: Walnut shell receiving and unloading operation

The potential emission are estimated using generally accepted emission factors; therefore, source testing is not required for this operation.

N-8887-28-0: Trona or hydrated lime receiving and storage operation

District Policy APR-1705 requires that non-combustion equipment served by a baghouse or dust collector with expected PM<sub>10</sub> emissions of 30 pounds per day or greater must be tested upon initial start-up. Units with PM<sub>10</sub> emissions in excess of 70 pounds per day should also be tested on annual basis.

Per section VII.C.2 above, the potential PM<sub>10</sub> emissions from this operation are below 30 pounds per day. Thus, source testing is not required for this operation.

## **2. Monitoring**

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

NO<sub>x</sub>, SO<sub>x</sub>, and CO:

The applicant has proposed to use a CEMS to measure and record NO<sub>x</sub>, SO<sub>x</sub>, CO and O<sub>2</sub> concentrations. The proposed CEMS system must comply with all applicable requirements from 40 CFR Part 60 for CEMS.

PM<sub>10</sub>:

The applicant has proposed to install, operate and maintain a differential pressure gauge that would continuously monitor the pressure difference across the bags. This monitoring scheme will ensure that baghouse operates within the pressure range suggested by the manufacturer.

VOC:

No monitoring is required for VOC emissions.

N-8887-24-0: Potato Receiving, storage and processing operations

No monitoring is required to demonstrate compliance with Rule 2201.

N-8887-25-0: Potato drying and storage operations

The owner or operator will be required to establish a minimum water recirculation rate (gpm) for the scrubber during the initial source while demonstrating successful compliance with the permitted VOC and PM<sub>10</sub> emission rates. This minimum flow rate shall be administratively established in the Permit to Operate.

N-8887-26-0: Dried-potato truck loadout operation

To ensure the proper operation of the dust collector, the owner or operator is required to thoroughly inspect the filter media annually for tears, scuffs, abrasions, holes, or any evidence of particulate matter leaks, and replace the media as needed.

N-8887-27-0: Walnut shell receiving and unloading operation

No monitoring is required to demonstrate compliance with Rule 2201.

N-8887-28-0: Trona or hydrated lime receiving and storage operation

The owner or operator is required to monitor differential pressure across the filter during loading the silos to ensure that the pressure stays within the established differential pressure range readings. In addition, the operator will also be required to thoroughly inspect the filter media annually for tears, scuffs, abrasions, holes, or any evidence of particulate matter leaks, and replace the media as needed.

### **3. Recordkeeping**

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

The owner or operator will be required to keep the following records: boiler startup time, boiler shutdown time, duration of each startup period, duration of each shutdown period, hourly, daily, monthly, and annual records of emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC and NH<sub>3</sub> emissions rates, SCR temperature records, baghouse pressure differential reading records, baghouse filter media changeout records, amount of fuel used, HHV of the fuel, and all CEMS records.

N-8887-24-0: Potato Receiving, storage and processing operations

The owner or operator will be required to keep records of date, amount of potatoes received (tons/day), and cumulative total amount of potatoes received up-to-date in a year (tons/yr).

N-8887-25-0: Potato drying and storage operations

The owner or operator will be required to keep records of the date, amount of shredded potatoes dried (wet-tons/day), and cumulative total amount of shredded potatoes dried up-to-date in a year (wet-tons/yr).



N-8887-26-0: Dried-potato truck loadout operation

The owner or operator will be required to keep records of date, amount of dried potatoes loaded (dry-tons/day), and cumulative total amount of dried potatoes loaded up-to-date in a year (dry-tons/yr).

N-8887-27-0: Walnut shell receiving and unloading operation

The owner or operator will be required to keep records of date, amount of walnut shells received (dry-tons/day), and cumulative total amount of walnut shells received up-to-date in a year (dry-tons/yr).

N-8887-28-0: Trona or hydrated lime receiving and storage operation

The owner or operator will be required to keep records of date, name of the material, and amount of material loaded in the silo (tons/day). In addition, differential pressure records will also be required.

#### **4. Reporting**

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

The owner or operator will be required to submit source test reports within 60-days after conducting each source test.

N-8887-24-0: Potato Receiving, storage and processing operations

N-8887-25-0: Potato drying and storage operations

N-8887-26-0: Dried-potato truck loadout operation

N-8887-27-0: Walnut shell receiving and unloading operation

N-8887-28-0: Trona or hydrated lime receiving and storage operation

For the above permit units, no reporting is required to demonstrate compliance with Rule 2201.

#### **F. Ambient Air Quality Analysis (AAQA)**

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

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO<sub>x</sub>, CO, or SO<sub>x</sub>.

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

Compliance is expected with this rule.

### **Rule 2410 Prevention of Significant Deterioration**

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

### **Rule 2520 Federally Mandated Operating Permits**

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

### **Rule 4001 New Source Performance Standards (NSPS)**

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. The following subpart(s) apply to the walnut shell fired boilers:

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

##### *§ 60.40c Applicability and delegation of authority*

- (a) The affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h)

Heat input rate to the each boiler will be 65 MMBtu/hr and each will be constructed after the cut-off date of June 9, 1989. Thus, these units are subject to requirements of this subpart.

##### *§ 60.42c Standard for sulfur dioxide (SO<sub>2</sub>)*

This section is reviewed and there are no SO<sub>2</sub> emission standards for wood fired boilers.

##### *§ 60.43c Standard for particulate matter (PM)*

- (c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of

0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph (c).

The following condition(s) will be included in the boiler permits:

- Except during periods of startup, shutdown, or malfunction, exhaust discharge from this unit shall not exhibit greater than 20 percent opacity (6-minute average), with an exception of one 6-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43c(c) and 40 CFR 60.43c(d)]

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

The above requirement is incorporated in the permit requirements in sections (c) & (d). Thus, compliance is expected.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

Each boiler will be constructed after the cut-off date and will use walnut shells. Heat input rate to each unit will be 65 MMBtu/hr. The following condition(s) will be included in the boiler permits:

- Except during periods of startup, shutdown, or malfunction, PM emissions from this boiler shall not exceed 0.030 lb/MMBtu. [40 CFR 60.43c(e)(1) and 40 CFR 60.43c(d)]

#### *§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide*

Since there are no SO<sub>2</sub> emissions standard for wood fired boilers, no performance test discussion is necessary.

#### *§ 60.45c Compliance and performance test methods and procedures for particulate matter*

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under § 60.43c shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

- (1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.
- (2) Method 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 of this part.
- (3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:
  - (i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.
  - (ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.
  - (iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.
- (4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.
- (5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at  $160 \pm 14$  °C ( $320 \pm 25$  °F).
- (6) For determination of PM emissions, an oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.
- (7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:
  - (i) The O<sub>2</sub> or CO<sub>2</sub> measurements and PM measurements obtained under this section,
  - (ii) The dry basis F factor, and
  - (iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A-4 of this part shall be used for determining the opacity of stack emissions.

The following condition(s) will be included in the boiler permits:

- EPA Method 1 of Appendix A of 40 CFR Part 60 shall be used to select the sampling site and the number of traverse sampling points. [40 CFR 60.45c(a)(1)]
- EPA Method 3A or 3B of Appendix A-2 of 40 CFR Part 60 shall be used for gas analysis when applying Method 5 of Appendix A-3 of 40 CFR Part 60 or EPA Method 17 of Appendix A-6 of 40 CFR Part 60. [40 CFR 60.45c(a)(2)]
- PM emissions shall be determined EPA Method 5, or 17 of Appendix A of 40 CFR Part 60 provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). [40 CFR 60.45c(a)(3)]
- Each PM testing run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the District when necessitated by process variables or other factors. [40 CFR 60.45c(a)(4)]
- For Method 5 of Appendix A in 40 CFR Part 60, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F). [40 CFR 60.45c(a)(5)]
- For determination of PM emissions, an oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) measurement shall be obtained simultaneously with each run of Method 5, or 17 of Appendix A of 40 CFR Part 60 by traversing the duct at the same sampling location. [40 CFR 60.45c(a)(6)]
- For each testing run using Method 5 or 17 of Appendix A of 40 CFR Part 60, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using: (i) The O<sub>2</sub> or CO<sub>2</sub> measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and (iii) The dry basis emission rate calculation procedure contained in Method 19 of Appendix A of 40 CFR Part 60. [40 CFR 60.45c(a)(7)]
- EPA Method 9 of Appendix A-4 and the procedure in section 60.11 of 40 CFR Part 60 shall be used for determining the opacity of stack emissions. [40 CFR 60.45c(a)(8) and 40 CFR 60.47c(a)]

#### § 60.46c Emission monitoring for sulfur dioxide

Since there are no SO<sub>2</sub> emissions standard for wood fired boilers, no emissions monitoring discussion is necessary.

#### § 60.47c Emission monitoring for particulate matter

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under § 60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in § 60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in § 60.11 to demonstrate compliance with the applicable limit in § 60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance

tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in § 60.45c(a)(8).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(f) An owner or operator of an affected facility that is subject to an opacity standard in § 60.43c(c) is not required to operate a COMS provided that the affected facility meets the conditions in either paragraphs (f)(1), (2), or (3) of this section.

(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section § 60.48Da of this part.

- (2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section § 60.48Da of this part.
- (3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§ 60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under § 60.48c(c).

TRE is not proposing to use continuous opacity monitoring system (COMS) for the boilers. Each boiler will be served by it's own fabric filter baghouse to reduce PM emissions. TRE will be required to operate a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section 40 CFR 60.48Da(o)(4) of 40 CFR Part 60.

- The owner or operator shall install, operate and maintain a bag leak detection system to monitor the performance of the fabric filter baghouse according to the requirements in 40 CFR 60.48Da(o)(4) of 40 CFR Part 60. [40 CFR 60.47c(a)]
- The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. [40 CFR 60.47c(a)]
- If no visible emissions are observed during the Method 9 test, a subsequent Method 9 test shall be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(i)]
- If visible emissions are observed during the Method 9 test but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 test shall be conducted within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(ii)]
- If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent during the Method 9 test, a subsequent Method 9 shall be conducted within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(iii)]



- If the maximum 6-minute average opacity is greater than 10 percent during the Method 9 test, a subsequent Method 9 test shall be conducted within 45 calendar days from the date that the most recent performance test was conducted. [40 CFR 60.47c(a)(1)(iv)]
- If the maximum 6-minute opacity is less than 10 percent during the Method 9 test, the owner or operator may, as an alternative to performing subsequent Method 9 test, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR Part 60 according to the procedures specified in paragraphs 40 CFR 60.47c(a)(2)(i) and (ii). [ 40 CFR 60.47c(a)(2)]
- If the maximum 6-minute opacity is less than 10 percent during the Method 9 test, the owner or operator may, as an alternative to performing subsequent Method 9 test , elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the District. The observations shall be similar, but not necessarily identical, to the requirements in paragraph 40 CFR 60.47c(a)(2). For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. [40 CFR 60.47c(a)(3)]

*§ 60.48c Reporting and recordkeeping requirements*

- (a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by § 60.7 of this part. This notification shall include:
- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
  - (2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.
  - (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.
  - (4) Notification if an emerging technology will be used for controlling SO<sub>2</sub> emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected

facility is subject to the provisions of § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

TRE is not proposing the use of any emerging technology to reduce SO<sub>2</sub> emissions. Therefore, no notification is required under item (a)(4).

The following condition will be included in the boiler permits:

- The owner or operator shall submit notification of the date of construction and actual startup. This notification shall also include design heat input capacity and anticipated annual capacity factor. [40 CFR 60.48c(a)]

(c) In addition to the applicable requirements in § 60.7, the owner or operator of an affected facility subject to the opacity limits in § 60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

The following condition will be included in the boiler permits:

- The owner or operator shall submit excess emission reports, every 6-month period, for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements, as applicable to the visible emissions monitoring method used: (1) For each performance test conducted using Method 9, the owner or operator shall keep the records of (i) Dates and time intervals of all opacity observation periods; (ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and (iii) Copies of all visible emission observer opacity field data sheets; (2) For each performance test conducted using Method 22, the owner or operator shall keep the records including the information of (i) Dates and time intervals of all visible emissions observation periods; (ii) Name and affiliation for each visible emission observer participating in the performance test; (iii) Copies of all visible emission observer opacity field data sheets; and (iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements. (3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the District. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period. [40 CFR 60.48c(c) and 40 CFR 60.48c(j)]

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in § 60.48c(f) to demonstrate compliance with the SO<sub>2</sub> standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in § 60.42C to use fuel certification to demonstrate compliance with the SO<sub>2</sub> standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

TRE will be required to maintain records of the amount of each fuel combusted during each operating day (tons/day). The following condition will be included in the boiler permits:

- The owner or operator shall keep records of the date and the amount of each fuel combusted during each operating day. [40 CFR 60.48c(g)(1)]

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under § 60.42c or § 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

The boiler permit will not include any restriction on the annual capacity factor. As such no capacity factor calculations or records are required.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

The following condition will be included in the boiler permits:

- The owner or operator shall retain all records on site for a period of five year following the date of such record. These records shall be made available to the District, CARB and EPA upon request. [District Rules 1070, 2201, and 4352, 40 CFR 60.48c(i)]

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

The reporting and submittal requirements above are included in a permit condition discussed under section 40 CFR 60.48c(c). Therefore, compliance is expected with this section.

Compliance is expected with this regulation.

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

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

The following subparts are reviewed:

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

*§ 63.7485 Am I subject to this subpart?*

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in § 63.7575 that is located at, or is part of, a major source of HAP, except as specified in § 63.7491. For purposes of this subpart, a major source of HAP

is as defined in § 63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in § 63.7575.

Per worksheet in **Appendix E** of this document, TRE's potential HAP emissions are below the threshold of 10 tons/yr for single HAP and 25 tons/yr for combined HAP. Therefore, this facility is not a major source of HAP emissions; consequently, the proposed boilers are not subject to the requirements of this subpart.

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

Per phone conversation on November 3, 2021, between District staff and Mario Zuniga of EPA Region 9, the District has not been delegated to enforce the requirements of this subpart for area sources. As such, no further discussion is required. Note that EPA retains the authority to enforce the requirements of this subpart at this time, and requires owners or operator to comply all applicable requirements in this subpart.

**Rule 4101 Visible Emissions**

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

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

Compliance is expected with this Rule.

**Rule 4102 Nuisance**

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

**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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District's significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

According to the Technical Services Memo for this project, the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The resulting prioritization score, acute hazard index, chronic hazard index, and cancer risk for this project is shown below.

Health Risk Assessment Summary	
	Worst Case Potential
Prioritization Score	3,885.67
Cancer Risk	6.7 in a million
Acute Hazard Index	0.00
Chronic Hazard Index	0.03
T-BACT Required?	Yes

**Discussion of T-BACT**

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is required for this project because the HRA indicates that the risk is above the District’s thresholds for triggering T-BACT requirements.

For this project T-BACT is triggered for PM<sub>10</sub> from the proposed boilers. T-BACT is satisfied with BACT for PM<sub>10</sub> (see **Appendix C**), which is the use of baghouse; therefore, compliance with the District’s Risk Management Policy is expected.

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. However, the cancer risk for one or more units in this project is greater than 1.0 in a million. In accordance with the District’s Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT) for units N-8887-22-0 and ‘-23-0.

See **Appendix D**: Health Risk Assessment Summary

The following permit conditions are required to ensure compliance with the assumptions made for the risk management review:

N-8887-22-0, and ‘- 23-0

- 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]

In accordance with District policy APR 1905, no further analysis is required, and compliance with District Rule 4102 requirements is expected.

**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-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

For each boiler,

$$PM \left( \frac{\text{gr}}{\text{dscf}} \right) = \frac{\left( 0.0036 \frac{\text{lb-PM}}{\text{MMBtu}} \right) \left( 65.6 \frac{\text{MMBtu}}{\text{hr}} \right) \left( 7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right)}{\left( 1,830 \frac{\text{ft}^3}{\text{min}} \right) \left( \frac{100\%}{12\%} \right) \left( 60 \frac{\text{min}}{\text{hr}} \right)} = 0.0018 \frac{\text{gr-PM}}{\text{dscf}} < 0.1 \frac{\text{gr-PM}}{\text{dscf}}$$

N-8887-24-0: Potato Receiving, storage and processing operations

PM emissions from these operations are not vented through a discharge stack; therefore, these operations are not subject to the requirements of this rule.

N-8887-25-0: Potato drying and storage operations

Dryer and silos are connected to a shared cyclone.

$$PM \text{ emissions} = 0.27 \text{ lb-PM/hr} + 0.003 \text{ lb-PM/hr (per section VII.C.2 above)}$$
$$= 0.273 \text{ lb-PM/hr}$$

Exhaust flow rate = 32,713 scfm (per applicant)

$$PM \left( \frac{\text{gr}}{\text{dscf}} \right) = \frac{\left( 0.273 \frac{\text{lb-PM}}{\text{hr}} \right) \left( 7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right) \left( \frac{\text{hr}}{60 \text{ min}} \right)}{\left( 32,713 \frac{\text{ft}^3}{\text{min}} \right)} = 0.001 \frac{\text{gr-PM}}{\text{dscf}} < 0.1 \frac{\text{gr-PM}}{\text{dscf}}$$

N-8887-26-0: Dried-potato truck loadout operation

PM emissions = 0.00011 lb-PM/hr (per section VII.C.2 above)

Exhaust flow rate = 340 scfm (similar bin dispensing system under project N-1103242)

$$PM \left( \frac{\text{gr}}{\text{dscf}} \right) = \frac{\left( 0.00011 \frac{\text{lb-PM}}{\text{hr}} \right) \left( 7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right) \left( \frac{\text{hr}}{60 \text{ min}} \right)}{\left( 340 \frac{\text{ft}^3}{\text{min}} \right)} = 0.00004 \frac{\text{gr-PM}}{\text{dscf}} < 0.1 \frac{\text{gr-PM}}{\text{dscf}}$$

N-8887-27-0: Walnut shell receiving and unloading operation

PM emissions from these operations are not vented through a discharge stack; therefore, these operations are not subject to the requirements of this rule.

N-8887-28-0: Trona or hydrated lime receiving and storage operation

PM emissions = 0.1 lb-PM/hr (per section VII.C.2 above)

Exhaust flow rate = 340 scfm (similar bin dispensing system under project N-1103242)

$$\text{PM} \left( \frac{\text{gr}}{\text{dscf}} \right) = \frac{\left( 0.1 \frac{\text{lb-PM}}{\text{hr}} \right) \left( 7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right) \left( \frac{\text{hr}}{60 \text{ min}} \right)}{\left( 340 \frac{\text{ft}^3}{\text{min}} \right)} = 0.03 \frac{\text{gr-PM}}{\text{dscf}} < 0.1 \frac{\text{gr-PM}}{\text{dscf}}$$

Compliance is expected with this Rule.

### **Rule 4301 Fuel Burning Equipment**

The requirements of section 5.0 are as follows:

- Combustion contaminants (TSP) - Not to exceed 0.1 gr/dscf @ 12% CO<sub>2</sub> and 10 lb/hr.
- SO<sub>x</sub> emissions - Not to exceed 200 /hr
- NO<sub>x</sub> emissions - Not to exceed 140 lb/hr

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

For each unit, per section VII.C.2 of this document,

NO<sub>x</sub> = 1.896 lb/hr

SO<sub>x</sub> = 3.214 lb/hr

PM = 0.236 lb/hr

PM grain loading is calculated below:

F-factor (CO<sub>2</sub> basis) = 1,830 dscf/MMBtu (Wood)

$$\text{PM} \left( \frac{\text{gr}}{\text{dscf}} \right) = \frac{\left( 0.0036 \frac{\text{lb-PM}}{\text{MMBtu}} \right) \left( 65.6 \frac{\text{MMBtu}}{\text{hr}} \right) \left( 7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right)}{\left( 1,830 \frac{\text{ft}^3}{\text{min}} \right) \left( \frac{100\%}{12\%} \right) \left( 60 \frac{\text{min}}{\text{hr}} \right)} = 0.0018 \frac{\text{gr-PM}}{\text{dscf}} < 0.1 \frac{\text{gr-PM}}{\text{dscf}}$$

Since the potential emissions from each boiler are below the threshold for each pollutant, compliance is expected with this rule.

N-8887-24-0: Potato Receiving, storage and processing operations

N-8887-25-0: Potato drying and storage operations

N-8887-26-0: Dried-potato truck loadout operation

N-8887-27-0: Walnut shell receiving and unloading operation

N-8887-28-0: Trona or hydrated lime receiving and storage operation

The operations under above permits do not involve any fuel burning equipment; therefore, these operations are not subject to the requirements of this rule.



## 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 equations:

$$E_{Max} = 3.59 P^{0.62}, \text{ for Process weight (P) less than or equal to 30 tons/hr}$$
$$E_{Max} = 17.31 P^{0.16}, \text{ for Process weight (P) greater than 30 tons/hr}$$

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

For each boiler,

Processing Rate: 4 tons/hr (per applicant)

$$E_{Max} = 3.59 (4 \text{ tons/hr})^{0.62}$$
$$= 8.5 \text{ lb-PM/hr}$$

$$E_{Proposed} = 0.236 \text{ lb-PM/hr}$$

N-8887-24-0: Potato Receiving, storage and processing operations

Processing Rate: 25 tons/hr (per applicant)

$$E_{Max} = 3.59 (25 \text{ tons/hr})^{0.62}$$
$$= 26.4 \text{ lb-PM/hr}$$

$$E_{Proposed} = 0.0014 \text{ lb-PM/hr}$$

For each operation above, the proposed emission rate ( $E_{Proposed}$ ) is less than the maximum allowable emission rate ( $E_{Max}$ ); therefore, compliance is expected with this rule.

N-8887-25-0: Potato drying and storage operations

Dryer:

Processing Rate: 27 tons/hr (per applicant)

$$E_{Max} = 3.59 (27 \text{ tons/hr})^{0.62}$$
$$= 27.7 \text{ lb-PM/hr}$$

$$E_{Proposed} = 0.27 \text{ lb-PM/hr}$$

Storage silos:

Processing Rate: 8.37 tons/hr (per applicant)

$$E_{Max} = 3.59 (8.37 \text{ tons/hr})^{0.62}$$
$$= 13.4 \text{ lb-PM/hr}$$

$$E_{Proposed} = 0.003 \text{ lb-PM/hr}$$

For each operation above, the proposed emission rate ( $E_{\text{Proposed}}$ ) is less than the maximum allowable emission rate ( $E_{\text{Max}}$ ); therefore, compliance is expected with this rule.

N-8887-26-0: Dried-potato truck loadout operation

Processing Rate: 6.75 tons/hr (per applicant)

$$E_{\text{Max}} = 3.59 (6.75 \text{ tons/hr})^{0.62} \\ = 11.7 \text{ lb-PM/hr}$$

$$E_{\text{Proposed}} = 0.00011 \text{ lb-PM/hr}$$

The proposed emission rate ( $E_{\text{Proposed}}$ ) is less than the maximum allowable emission rate ( $E_{\text{Max}}$ ); therefore, compliance is expected with this rule.

N-8887-27-0: Walnut shell receiving and unloading operation

Processing Rate: 8 tons/hr (per applicant)

$$E_{\text{Max}} = 3.59 (8 \text{ tons/hr})^{0.62} \\ = 13.0 \text{ lb-PM/hr}$$

$$E_{\text{Proposed}} = 0.012 \text{ lb-PM/hr}$$

The proposed emission rate ( $E_{\text{Proposed}}$ ) is less than the maximum allowable emission rate ( $E_{\text{Max}}$ ); therefore, compliance is expected with this rule.

N-8887-28-0: Trona or hydrated lime receiving and storage operation

Processing Rate: 25 tons/hr (per applicant)

$$E_{\text{Max}} = 3.59 (25 \text{ tons/hr})^{0.62} \\ = 26.4 \text{ lb-PM/hr}$$

$$E_{\text{Proposed}} = 0.1 \text{ lb-PM/hr}$$

The proposed emission rate ( $E_{\text{Proposed}}$ ) is less than the maximum allowable emission rate ( $E_{\text{Max}}$ ); therefore, compliance is expected with this rule.

**Rule 4352 Solid Fuel Fired Boilers, Steam Generators, and Process Heaters**

Section 2.0 – Applicability

Section 2.0 states that this rule applies to any boiler steam generator or process heater fired on solid fuel. Heat may be supplied by liquid or gaseous fuel for start-ups, shutdowns, and during other flame stabilization periods, as deemed necessary by the owner/operator.

TRE has proposed to install two 65.6 MMBtu/hr (each) solid fuel fired boilers. Therefore, these units are subject to the requirements of this rule.

## Section 4.0 – Requirements

Section 4.1 lists NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub> and CO limits for “municipal solid waste”, “biomass”, and “all others” fuel type units.

The proposed boilers will use walnut shells. Walnut shell is not considered “biomass” fuel per section 3.11 of Rule 2201. Thus, these units fall in “all others” category.

Per Table 1, Until December 31, 2023, “all others” fuel type units are required to operate each unit at or below the following limits:

NO<sub>x</sub>: 65 ppmvd @ 3% O<sub>2</sub>

CO: 400 ppmvd @ 3% O<sub>2</sub>

The applicant has proposed to limit NO<sub>x</sub> and CO emissions to 0.0179 lb/MMBtu and 0.071 lb/MMBtu, respectively during steady state operation. These values are equated to 13.7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub><sup>1</sup> and 89.2 ppmvd CO @ 3% O<sub>2</sub><sup>2</sup>. Since the equated values are below the rule limits, compliance is expected.

Per Table 2, on and after January 1, 2024, “all others” fuel type units are required to operate each unit at or below the following limits:

NO<sub>x</sub>: 65 ppmvd @ 3% O<sub>2</sub>

CO: 400 ppmvd @ 3% O<sub>2</sub>

PM<sub>10</sub>: 0.03 lb/MMBtu

SO<sub>x</sub>: 0.035 lb/MMBtu (block 24-hour average) and 0.02 lb/MMBtu (rolling 30-day average)

The applicant has proposed to limit NO<sub>x</sub> and CO emissions to 0.0179 lb/MMBtu and 0.071 lb/MMBtu, respectively during steady state operation. These values are equated to 13.7 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> and 89.2 ppmvd CO @ 3% O<sub>2</sub>. Since the equated values are below the rule limits, compliance is expected.

The applicant has proposed to limit PM<sub>10</sub> and SO<sub>x</sub> emissions equal to the limits in this rule. Thus, compliance is expected.

The following conditions ensure on-going compliance:

- Upon completing commissioning period, except during periods of startup and shutdown, emissions from this boiler shall not exceed any of the following limits: 0.0179 lb-NO<sub>x</sub>/MMBtu (expressed as NO<sub>2</sub>) over a block 24-hour average basis, 0.071 lb-CO/MMBtu over a block

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<sup>1</sup> $(X \times 10^{-6} \times 9,240 \text{ dscf/MMBtu} \times 46 \text{ lb-NO}_x/\text{lb-mole} \times (20.95/(20.95-3))) \times 1/379.5 \text{ dscf/lb-mole} = 0.0179 \text{ lb-NO}_x/\text{MMBtu}; X = 13.7 \text{ ppmvd NO}_x @ 3\% \text{ O}_2$

<sup>2</sup> $(X \times 10^{-6} \times 9,240 \text{ dscf/MMBtu} \times 28 \text{ lb-CO/lb-mole} \times (20.95/(20.95-3))) \times 1/379.5 \text{ dscf/lb-mole} = 0.0179 \text{ lb-NO}_x/\text{MMBtu}; X = 89.2 \text{ ppmvd CO @ 3\% O}_2$

24-hour average basis, 0.0036 lb-VOC/MMBtu (expressed as CH<sub>4</sub>) over a 30-minute period. [District Rules 2201 and 4352]

- Upon completing commissioning period, during periods of startup, shutdown or steady state, emissions from this boiler shall not exceed any of the following limits: 0.035 lb-SO<sub>x</sub>/MMBtu (expressed as SO<sub>2</sub>) on a block 24-hour average basis and 0.02 lb-SO<sub>x</sub>/MMBtu (expressed as SO<sub>2</sub>) on a rolling 30-day average basis, and 0.0036 lb-PM<sub>10</sub>/MMBtu (both filterable and condensable). [District Rules 2201 and 4352]

Section 4.2 states a violation of the emission limits as measured by the test methods listed in Section 5.3 shall constitute a violation of this rule.

Section 4.3 lists start-up and shutdown provisions. The applicable emission limits of Section 4.1 shall not apply during start-up or shutdown provided an operator complies with the requirements specified below.

- 4.3.1 The duration of each shut down shall not exceed 12 hours, except as provided in Section 4.3.4.
- 4.3.2 Except as provided in Section 4.3.4, the duration of each start-up shall not exceed 96 hours. If curing of the refractory is required after a modification to the unit is made, the duration of start-up shall not exceed 192 hours, except as provided in Section 4.3.4.
- 4.3.3 The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown.
- 4.3.4 Notwithstanding the requirements of Section 4.3.1 or Section 4.3.2, the APCO, ARB, and EPA may approve a longer start-up or shutdown duration, if an operator submits an application for a Permit to Operate which provides a justification for the requested additional duration.

TRE has proposed to limit startup and shutdown period well below the limits mentioned above section. The compliance is expected. The following conditions will ensure on-going compliance with these sections:

- Upon completing commissioning period, startup period shall not exceed any of the following limits: 12 hours during any one day and 24 hours per calendar year. [District Rules 2201 and 4352]
- Upon completing commissioning period, shutdown period shall not exceed any of the following limits: 12 hours during any one day and 24 hours per calendar year. [District Rules 2201 and 4352]
- The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. [District Rule 4352]

Section 4.4 includes monitoring provisions. The owner/operator of any unit using ammonia injection as a NOx control technique, shall operate a Continuous Emissions Monitoring system (CEM) to monitor and record NOx concentrations, SOx concentrations, CO2 or O2 concentrations, as well as the NOx and SOx emission rates. Continuous Emission Monitoring systems shall be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7 (c) and 60.13. CEMs must also satisfy the Performance Specifications of 40 CFR 60 Appendix B and the Relative Accuracy Test Audit of Appendix F.

TRE will inject ammonia in SCR systems. TRE has proposed to install CEMS to monitor and records NOx, SOx, CO2 or O2 concentrations as well as NOx and SOx emission rates. Thus, compliance is expected with this section. Refer to discussion under Rule 1080 (above) for the requirements that will enforce on-going compliance with this section.

### Section 5.0 – Administrative Requirements

Section 5.1 includes recordkeeping. The subsections are as follows:

Section 5.1.1 states that except for municipal solid waste (MSW) fired units; the owner/operator of any unit subject to the requirements of this rule shall maintain, on a monthly basis, an operating log for each unit that includes the following information:

5.1.1.1 Type and quantity of fuel used.

5.1.1.2 The higher heating value (HHV) of each fuel as determined by Section 5.3, EPA Method 19, or as certified by a third party fuel supplier.

Section 5.1.2 states that the records required by Section 5.1.1 shall be retained on site for a period of five years, and shall be made available to the APCO, ARB, and EPA upon request.

The following conditions in boiler permits will ensure on-going compliance with the above section:

- The owner or operator shall keep monthly records of the type, quantity, and the HHV of the fuel used in this boiler. [District Rule 4352]
- HHV in the fuel used in this boiler shall be conducted using ASTM 5865-10, EPA Method 19, ASTM D2015 or ASTM D3588 or District-approved equivalent method. [District Rules 1081, 2201 and 4352]
- The owner or operator shall retain all records on site for a period of five year following the date of such record. These records shall be made available to the District, CARB and EPA upon request. [District Rules 1070, 2201, and 4352, 40 CFR 60.48c(i)]

Section 5.2 lists compliance source testing provisions. The subsections are as follows:

Section 5.2.1 states that each unit subject to the requirements of this rule shall be tested at least once every 12 months, to determine compliance with the applicable short term emission limit (i.e. the applicable emission limit with the shortest averaging period) requirements of Section 4.0.

Section 5.2.2 states that 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.

Section 5.2.3 states that no compliance determination shall be established within two hours after a period in which fuel flow to the unit is zero, or is shut off for 30 minutes or longer.

The following conditions in the boiler permits ensure on-going compliance with the above sections:

- Source testing to measure steady state NO<sub>x</sub>, CO, PM<sub>10</sub>, SO<sub>x</sub>, VOC, and NH<sub>3</sub> emissions shall be conducted within 60 days of initial startup and at least once 12 months thereafter. [District Rules 2201 and 4352]
- 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. [District Rules 2201 and 4352]
- No compliance determination shall be established within two hours after a period in which fuel flow to the unit is zero, or is shut off for 30 minutes or longer. [District Rules 2201 and 4352]

Section 5.3 lists various test methods. The following conditions in the boiler permits ensure on-going compliance with this section.

- NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Methods 7E and 19 or CARB Method 100 and EPA Method 19. [District Rules 1081 and 4352]
- CO emissions for source test purposes shall be determined using EPA Method 10, EPA Method 3A or CARB Method 100. [District Rules 1081 and 4352]
- PM<sub>10</sub> emissions for source test purposes shall be determined using EPA Methods 201A, 202, and 19. [District Rules 1081 and 4352]
- In lieu of performing a source test for PM<sub>10</sub>, the results of the total particulate test may be used for compliance with the PM<sub>10</sub> emission limit provided the results include both the filterable and condensable (back half) particulates, and that all particulate matter is assumed to be PM<sub>10</sub>. If this option is exercised, source testing shall be conducted using CARB Method 5 or EPA Method 5 (including condensable (back half) particulates). [District Rule 1081]

- Stack gas oxygen shall be determined using EPA Method 3 or 3A or CARB Method 100. [District Rules 1081 and 4352]
- SOx emissions for source test purposes shall be determined using EPA Method 6, EPA Method 6C, EPA Method 8 or CARB Method 100. [District Rules 1081 and 4352]
- Stack gas velocity shall be determined using EPA Method 2. [District Rules 1081 and 4352]
- Stack gas moisture content shall be determined using EPA Method 4. [District Rules 1081 and 4352]

### Section 6.0 – Compliance Schedule

The operator is required to obtain ATC by June 1, 2022 such that any non-compliant unit have ample time to comply with the NOx, PM<sub>10</sub> and SOx limits that become effective on January 1, 2024..

The proposed boilers in this project are new units. They are expected to operate in compliance with the requirements of this rule.

Compliance is expected with this rule.

### **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<sub>2</sub>) at the point of discharge on a dry basis averaged over 15 consecutive minutes.

N-8887-22-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #1)

N-8887-23-0: 65.6 MMBtu/hr (each) walnut shell fired boiler (boiler #2)

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

$$\frac{(2,000 \text{ ppmvd}) \left(9,240 \frac{\text{dscf}}{\text{MMBtu}}\right) \left(64 \frac{\text{lb-SO}_x}{\text{lb-mol}}\right)}{\left(379.5 \frac{\text{dscf}}{\text{lb-mol}}\right) (10^6)} = 3.117 \frac{\text{lb-SO}_x}{\text{MMBtu}}$$

TRE has proposed to comply with 0.035 lb-SOx/MMBtu on a block 24-hour average basis. Since the proposed limit is below the 3.117 lb-SOx/MMBtu rule limit, compliance is expected with this rule.

N-8887-24-0: Potato Receiving, storage and processing operations

N-8887-25-0: Potato drying and storage operations

N-8887-26-0: Dried-potato truck loadout operation

N-8887-27-0: Walnut shell receiving and unloading operation

N-8887-28-0: Trona or hydrated lime receiving and storage operation

The operations under above permits do not involve any fuel burning equipment; therefore, these operations are not subject to the requirements of this rule.

### **California Health & Safety Code 42301.6 (School Notice)**

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

### **California Environmental Quality Act (CEQA)**

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

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

### **District CEQA Findings**

The City of Tracy (City) is the public agency having principal responsibility for approving the project. As such, the City served as the Lead Agency (CCR §15367). In approving the project, the Lead Agency prepared and adopted a Mitigated Negative Declaration. The Lead agency filed a Notice of Determination, stating that the environmental document was adopted pursuant to the provisions of CEQA and concluding that the project would not have a significant effect on the environment.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CCR §15381). As a Responsible Agency the District complies with CEQA by considering the environmental document prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project (CCR §15096).

The District has considered the Lead Agency's environmental document. Furthermore, the District has conducted an engineering evaluation of the project, this document, which



demonstrates that Stationary Source emissions from the project would be below the District’s thresholds of significance for criteria pollutants. Thus, the District finds that through a combination of project design elements, compliance with applicable District rules and regulations, and compliance with District air permit conditions, project specific stationary source emissions will have a less than significant impact on air quality. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

**Indemnification Agreement/Letter of Credit Determination**

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

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

**IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC N-8887-22-0 through ‘-28-0 subject to the permit conditions on the attached draft ATC in **Appendix A**.

**X. Billing Information**

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-8887-22-0	3020-02H	65 MMBtu/hr boiler	\$1,238
N-8887-23-0	3020-02H	65 MMBtu/hr boiler	\$1,238
N-8887-24-0	3020-06	Miscellaneous	\$128
N-8887-25-0	3020-01C	75 hp	\$239
N-8887-26-0	3020-01A	<25 hp	\$107
N-8887-27-0	3020-01A	<25 hp	\$107
N-8887-28-0	3020-01A	<25 hp	\$107

## **Appendixes**

- A: Draft ATCs
- B: BACT Guideline
- C: BACT Analysis
- D: HRA Summary
- E: HAP Calculations
- F: Quarterly Net Emissions Change

**Appendix A**  
**Draft ATCs**

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-8887-22-0

**LEGAL OWNER OR OPERATOR:** TRACY RENEWABLE ENERGY LLC

**MAILING ADDRESS:** P O BOX 583  
TRACY, CA 95378

**LOCATION:** 9251 ARBOR AVE  
TRACY, CA 95304

**EQUIPMENT DESCRIPTION:**

65.6 MMBTU/HR HENAND YUANDA BOILER CO MODEL SZL25-1.25-T, STOKER-TYPE WALNUT-SHELL FUEL FIRED BOILER WITH UREA INJECTION SYSTEM, A CYCLONE, A BAGHOUSE FILTER SYSTEM, AND A SELECTIVE CATALYTIC REDUCTION SYSTEM (BOILER #1)

## CONDITIONS

1. Authority to Construct (ATC) permits N-8887-1 through '-18-0 and '-21-0 shall be cancelled prior to implementing any ATC permits N-8887-22-0 through '-28-0. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. 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]
4. 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]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. {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]
7. 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]

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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

N-8887-22-0 : Jan 31 2022 9:00AM -- KAH/LONJ : Joint Inspection NOT Required

8. During all types of operation, ammonia injection into the SCR system shall occur once the minimum temperature established during the initial source testing at the catalyst face has been reached to ensure NO<sub>x</sub> emission reductions can occur with a reasonable level of ammonia slip. The minimum temperature established during the initial testing shall be administratively included in the permit to operate. The established temperature may be modified administratively as necessary following any replacement of the SCR catalyst material. [District Rule 2201]
9. 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]
10. The baghouse shall be maintained and operated according to manufacturer's specifications. [District Rule 2201]
11. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
12. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
13. The differential pressure gauge reading range shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201]
14. Material removed from the baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
15. Replacement bags numbering at least 10% of the total number of bags in the baghouse shall be maintained on the premises. [District Rule 2201]
16. Differential operating pressure shall be monitored and recorded continuously each day this boiler operates. [District Rule 2201]
17. The baghouse shall be thoroughly inspected annually for tears, scuffs, abrasions, holes, or any evidence of particulate matter breakthrough and shall be replaced as needed. [District Rule 2201]
18. Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable steady state operation of the boiler and associated system. [District Rule 2201]
19. Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the boiler is first fired, whichever occurs first. The commissioning period shall terminate when the boiler has completed initial source testing, completed final boiler tuning, and is available for commercial operation. [District Rule 2201]
20. During the commissioning period, the emission rates from the boiler system shall not exceed any of the following limits: NO<sub>x</sub> (as NO<sub>2</sub>) - 1.896 lb/hr and 45.6 lb/day; VOC (as CH<sub>4</sub>) - 1.22 lb/hr and 29.2 lb/day; CO - 23.452 lb/hr and 562.8 lb/day; PM<sub>10</sub> - 0.236 lb/hr and 5.7 lb/day; SO<sub>x</sub> (as SO<sub>2</sub>) - 2.296 lb/hr and 55.1 lb/day or NH<sub>3</sub> (from SCR system) - 0.846 lb/hr and 20.3 lb/day. [District Rule 2201]
21. During commissioning period, NO<sub>x</sub>, CO and SO<sub>x</sub> emissions rate shall be monitored and recorded using installed and calibrated CEMS. [District Rule 2201]
22. Commissioning period PM<sub>10</sub>, VOC and NH<sub>3</sub> emissions rate shall be estimated using emission factors (lb/MMBtu) from the initial source testing, actual fuel heat input rate (MMBtu/hr), and hours of operation (hr/day). [District Rule 2201]
23. The total annual mass emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, VOC and NH<sub>3</sub> emissions that are emitted during the commissioning period shall accrue towards the annual emission limits. [District Rule 2201]
24. For commissioning period, the owner or operator shall keep records of following items: (1) Date, (2) Type of commissioning activities performed, (3) Heat input rate to the boiler (MMBtu/hr), (4) Hours of boiler operation (hours), and (5) Hourly, daily and up-to-date total annual mass emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, VOC and NH<sub>3</sub>. [District Rule 2201]
25. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

26. Startup is defined as the period of time beginning when the unit is heated to the operating temperature and pressure from a shutdown status or hot standby condition. [District Rule 2201]
27. Shutdown is defined as the period of time during which a unit is taken from operational to non-operational status by allowing it to cool down from its operating temperature and pressure to an ambient temperature, or to a hot standby condition. [District Rule 2201]
28. Only walnut shells shall be used as fuel in this boiler. [District Rules 2201 and 4102]
29. Upon completing commissioning period, startup period shall not exceed any of the following limits: 12 hours during any one day and 24 hours per calendar year. [District Rules 2201 and 4352]
30. Upon completing commissioning period, shutdown period shall not exceed any of the following limits: 12 hours during any one day and 24 hours per calendar year. [District Rules 2201 and 4352]
31. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. [District Rule 4352]
32. Upon completing commissioning period, during periods of startup and shutdown, emissions from this boiler shall not exceed any of the following limits: 0.0289 lb-NO<sub>x</sub>/MMBtu (expressed as NO<sub>2</sub>), 0.3575 lb-CO/MMBtu, and 0.0186 lb-VOC/MMBtu (expressed as CH<sub>4</sub>), all emission limits averaged over the entire startup or shutdown period. [District Rule 2201]
33. Upon completing commissioning period, except during periods of startup and shutdown, emissions from this boiler shall not exceed any of the following limits: 0.0179 lb-NO<sub>x</sub>/MMBtu (expressed as NO<sub>2</sub>) over a block 24-hour average basis, 0.071 lb-CO/MMBtu over a block 24-hour average basis, 0.0036 lb-VOC/MMBtu (expressed as CH<sub>4</sub>) over a 30-minute period. [District Rules 2201 and 4352]
34. Upon completing commissioning period, during periods of startup, shutdown or steady state, emissions from this boiler shall not exceed any of the following limits: 0.035 lb-SO<sub>x</sub>/MMBtu (expressed as SO<sub>2</sub>) on a block 24-hour average basis and 0.02 lb-SO<sub>x</sub>/MMBtu (expressed as SO<sub>2</sub>) on a rolling 30-day average basis, and 0.0036 lb-PM<sub>10</sub>/MMBtu (both filterable and condensable). [District Rules 2201 and 4352]
35. Upon completing commissioning period, during periods of startup, shutdown or steady state, ammonia (NH<sub>3</sub>) slip emissions associated with boiler's NO<sub>x</sub> control system shall not exceed 0.0129 lb/MMBtu. [District Rule 2201]
36. Emissions from this boiler shall not exceed any of the following limits: 9,899 lb-NO<sub>x</sub>/year (expressed as NO<sub>2</sub>), 11,021 lb-SO<sub>x</sub>/year (expressed as SO<sub>2</sub>), 1,984 lb-PM<sub>10</sub>/year, 40,026 lb-CO/year, 2,030 lb-VOC/year (expressed as CH<sub>4</sub>) and 7,108 lb-NH<sub>3</sub>/year. These limits are on a 12 consecutive month rolling basis. Compliance with NO<sub>x</sub>, CO and SO<sub>x</sub> limits shall be determined from CEMS data. Compliance with PM<sub>10</sub>, VOC and NH<sub>3</sub> limits shall be determined by calculating emissions using emission factors (the most recent source test results), actual heat input to the boiler, and actual operating time. [District Rule 2201]
37. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, SO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]
38. 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]
39. Source testing to measure startup and shutdown NO<sub>x</sub>, CO and VOC emissions shall be conducted within 60 days of initial startup. CEMS relative accuracy for NO<sub>x</sub>, SO<sub>x</sub> and CO shall be determined during startup and shutdown source testing in accordance with 40 CFR 60, Appendix F (Relative Accuracy Audit). [District Rule 2201]
40. Source testing to measure steady state NO<sub>x</sub>, CO, PM<sub>10</sub>, SO<sub>x</sub>, VOC, and NH<sub>3</sub> emissions shall be conducted within 60 days of initial startup and at least once 12 months thereafter. [District Rules 2201 and 4352]
41. 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. [District Rules 2201 and 4352]

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42. No compliance determination shall be established within two hours after a period in which fuel flow to the unit is zero, or is shut off for 30 minutes or longer. [District Rules 2201 and 4352]
43. NOx emissions for source test purposes shall be determined using EPA Methods 7E and 19 or CARB Method 100 and EPA Method 19. [District Rules 1081 and 4352]
44. CO emissions for source test purposes shall be determined using EPA Method 10, EPA Method 3A or CARB Method 100. [District Rules 1081 and 4352]
45. PM10 emissions for source test purposes shall be determined using EPA Methods 201A, 202, and 19. [District Rules 1081 and 4352]
46. In lieu of performing a source test for PM10, the results of the total particulate test may be used for compliance with the PM10 emission limit provided the results include both the filterable and condensable (back half) particulates, and that all particulate matter is assumed to be PM10. If this option is exercised, source testing shall be conducted using CARB Method 5 or EPA Method 5 (including condensable (back half) particulates). [District Rule 1081]
47. Stack gas oxygen shall be determined using EPA Method 3 or 3A or CARB Method 100. [District Rules 1081 and 4352]
48. SOx emissions for source test purposes shall be determined using EPA Method 6, EPA Method 6C, EPA Method 8 or CARB Method 100. [District Rules 1081 and 4352]
49. VOC emissions for source test purposes shall be determined using EPA Method 18, 25A, or 25B, or ARB Method 100. [District Rule 1081]
50. Stack gas velocity shall be determined using EPA Method 2. [District Rules 1081 and 4352]
51. Stack gas moisture content shall be determined using EPA Method 4. [District Rules 1081 and 4352]
52. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081]
53. Testing to determine the higher heating value (HHV) of the fuel used in this boiler shall be conducted at least once every 12 months. [District Rules 1081 and 2201]
54. HHV in the fuel used in this boiler shall be conducted using ASTM 5865-10, EPA Method 19, ASTM D2015 or ASTM D3588 or District-approved equivalent method. [District Rules 1081, 2201 and 4352]
55. The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Emissions Monitoring System (CEMS) which continuously measures and records the exhaust gas NOx, SOx, CO and O2 or CO2 concentrations for each boiler. CEMS shall monitor emissions during all types of operation, including during startup and shutdown periods, provided the CEMS passes the relative accuracy requirement specified herein during startups and shutdowns periods. If relative accuracy of CEMS cannot be demonstrated during startup or shutdown periods, CEMS results during startup and shutdown events shall be replaced with startup emission rates obtained during initial source testing. [District Rules 1080, 2201 and 4352]
56. Each CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rules 1080, 2201 and 4352]
57. Each CEMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 for CEMS and Part 60, Appendix B Performance Specification 6 (PS6), or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rules 1080 and 2201]
58. In accordance with 40 CFR Part 60, Appendix F, NOx, SOx, CO and O2 or CO2 monitors must be audited at least once each calendar quarter, by conducting cylinder gas audits (CGA) or relative accuracy audits (RAA). CGA or RAA may be conducted three of four calendar quarters, but no more than three calendar quarters in succession. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rules 1080, 2201 and 4352]
59. The owner/operator shall perform a RATA for NOx, SOx, CO and O2 or CO2 (as specified in 40 CFR Part 60, Appendix F) and flow rate sensor at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the CEMS equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F for CEMS equipment. [District Rules 1080, 2201 and 4352]

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60. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080]
61. The CEMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rules 1080, 2201 and 4352]
62. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CEMS. This summary shall be in the form and the manner prescribed by the District. [District Rules 1080 and 2201]
63. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEMS data polling software system and shall make CEMS data available to the District's automated polling system on a daily basis [District Rules 1080, 2201 and 4352]
64. Upon notice by the District that the facility's CEMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEMS data is sent to the District by a District-approved alternative method. [District Rule 1080]
65. The owner or operator shall maintain the following records for CEMS equipment: (1) Date, time and duration of any malfunction; (2) Date of performance testing; (3) Date of evaluations, calibrations, checks, and adjustments; and (4) Date and time period for which CEMS was inoperative. [District Rules 1080, 2201 and 4352]
66. The owner or operator shall maintain records of NO<sub>x</sub>, SO<sub>x</sub> and CO emissions and submit a written report each calendar quarter to the District containing the following information for each operating day: (1) Calendar date; (2) NO<sub>x</sub> (expressed as NO<sub>2</sub>), SO<sub>x</sub> and CO emission rate (lb/hr) measured at the exhaust of each boiler; (3) NO<sub>x</sub> (expressed as NO<sub>2</sub>), SO<sub>x</sub> and CO emissions rate factor (lb/MMBtu, over a block 24-hour average basis), (4) Total daily NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/day) calculated at the end of each operating day from the measured total hourly NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates; (5) The 30-day rolling average SO<sub>x</sub> emission rate (lb/MMBtu); (6) The total monthly NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/month) calculated at the end of each month using total daily NO<sub>x</sub>, SO<sub>x</sub> and CO emissions rates; (7) The total annual NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/year, on a rolling 12-month basis) calculated at the end of each month using total monthly NO<sub>x</sub> emission rate; (8) Identification of the operating days when NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates are in excess of the permitted levels, with the reasons for such excess emissions as well as a description of corrective actions taken; (9) Identification of the operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (10) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding such data; (11) Identification of each parameter used in calculations; (12) Identification of the times when the pollutant concentration exceeded full span of the CEMS; (13) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 6; (14) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of Part 60; and (15) A negative declaration when no excess emissions occurred. The report is due on the 30th day following the end of the calendar quarter. [District Rules 1080, 2201 and 4352]
67. The owner or operator may submit electronic quarterly reports in lieu of submitting the written reports. The format of each quarterly electronic report shall be coordinated with the District. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this permit was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the District to obtain their agreement to submit reports in this alternative format. [District Rules 1080, 2201 and 4352]
68. The owner or operator shall maintain an operating log that includes, on a daily basis: (1) Actual local startup and shutdown time, (2) Total hours of operation, (3) Duration of each start-up, (4) Duration of each shutdown, (5) Total duration of all startups occurred in a given calendar year, (6) Total duration of all shutdowns occurred in a given calendar year, (7) SCR face temperature records, (8) Baghouse differential pressure records, (9) Quantity of the fuel combusted in this boiler. [District Rule 2201]
69. The owner or operator shall maintain records of monthly and annual (12-month rolling basis) PM<sub>10</sub>, VOC and NH<sub>3</sub> emissions. [District Rule 2201]

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70. The owner or operator shall keep records of all maintenance of the baghouse, including all change outs of bags or filter media. These records shall include identification of the equipment, date of inspection, any corrective action taken, and identification of the personnel performing the inspection. [District Rule 2201]
71. The owner or operator shall keep monthly records of the type, quantity, and the HHV of the fuel used in this boiler. [District Rule 4352]
72. Except during periods of startup, shutdown, or malfunction, PM emissions from this boiler shall not exceed 0.030 lb/MMBtu. [40 CFR 60.43c(e)(1) and 40 CFR 60.43c(d)]
73. EPA Method 1 of Appendix A of 40 CFR Part 60 shall be used to select the sampling site and the number of traverse sampling points. [40 CFR 60.45c(a)(1)]
74. EPA Method 3A or 3B of Appendix A-2 of 40 CFR Part 60 shall be used for gas analysis when applying Method 5 of Appendix A-3 of 40 CFR Part 60 or EPA Method 17 of Appendix A-6 of 40 CFR Part 60. [40 CFR 60.45c(a)(2)]
75. PM emissions shall be determined EPA Method 5, or 17 of Appendix A of 40 CFR Part 60 provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). [40 CFR 60.45c(a)(3)]
76. Each PM testing run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the District when necessitated by process variables or other factors. [40 CFR 60.45c(a)(4)]
77. For Method 5 of Appendix A in 40 CFR Part 60, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F). [40 CFR 60.45c(a)(5)]
78. For determination of PM emissions, an oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) measurement shall be obtained simultaneously with each run of Method 5, or 17 of Appendix A of 40 CFR Part 60 by traversing the duct at the same sampling location. [40 CFR 60.45c(a)(6)]
79. For each testing run using Method 5 or 17 of Appendix A of 40 CFR Part 60, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using: (i) The O<sub>2</sub> or CO<sub>2</sub> measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and (iii) The dry basis emission rate calculation procedure contained in Method 19 of Appendix A of 40 CFR Part 60. [40 CFR 60.45c(a)(7)]
80. Except during periods of startup, shutdown, or malfunction, exhaust discharge from this unit shall not exhibit greater than 20 percent opacity (6-minute average), with an exception of one 6-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43c(c) and 40 CFR 60.43c(d)]
81. EPA Method 9 of Appendix A-4 and the procedure in section 60.11 of 40 CFR Part 60 shall be used for determining the opacity of stack emissions. [40 CFR 60.45c(a)(8) and 40 CFR 60.47c(a)]
82. The owner or operator shall install, operate and maintain a bag leak detection system to monitor the performance of the fabric filter baghouse according to the requirements in 40 CFR 60.48Da(o)(4) of 40 CFR Part 60. [40 CFR 60.47c(a)]
83. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. [40 CFR 60.47c(a)]
84. During the latest Method 9 test, if no visible emissions are observed, a subsequent Method 9 must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(i)]
85. During the latest Method 9 test, if visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(ii)]
86. During the latest Method 9 test, if the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(iii)]

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87. During the latest Method 9 test, if the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 must be completed within 45 calendar days from the date that the most recent performance test was conducted. [40 CFR 60.47c(a)(1)(iv)]
88. During the latest Method 9 test, if the maximum 6-minute opacity is less than 10 percent, the owner or operator may, as an alternative to performing subsequent Method 9, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR Part 60 according to the procedures specified in paragraphs 40 CFR 60.47c(a)(2)(i) and (ii). [40 CFR 60.47c(a)(2)]
89. During the latest Method 9 test, if the maximum 6-minute opacity is less than 10 percent, the owner or operator may, as an alternative to performing subsequent Method 9 of, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the District. The observations shall be similar, but not necessarily identical, to the requirements in paragraph 40 CFR 60.47c(a)(2). For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. [40 CFR 60.47c(a)(3)]
90. The owner or operator shall submit notification of the date of construction and actual startup. This notification shall also include design heat input capacity and anticipated annual capacity factor. [40 CFR 60.48c(a)]
91. The owner or operator shall submit excess emission reports, every 6-month period, for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements, as applicable to the visible emissions monitoring method used: (1) For each performance test conducted using Method 9, the owner or operator shall keep the records of (i) Dates and time intervals of all opacity observation periods; (ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and (iii) Copies of all visible emission observer opacity field data sheets; (2) For each performance test conducted using Method 22, the owner or operator shall keep the records including the information of (i) Dates and time intervals of all visible emissions observation periods; (ii) Name and affiliation for each visible emission observer participating in the performance test; (iii) Copies of all visible emission observer opacity field data sheets; and (iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements. (3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the District. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period. [40 CFR 60.48c(c) and 40 CFR 60.48c(j)]
92. The owner or operator shall keep records of the date and the amount of each fuel combusted during each operating day. [40 CFR 60.48c(g)(1)]
93. The owner or operator shall retain all records on site for a period of five year following the date of such record. These records shall be made available to the District, CARB and EPA upon request. [District Rules 1070, 2201, and 4352, 40 CFR 60.48c(i)]

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*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-8887-23-0

**LEGAL OWNER OR OPERATOR:** TRACY RENEWABLE ENERGY LLC

**MAILING ADDRESS:** P O BOX 583  
TRACY, CA 95378

**LOCATION:** 9251 ARBOR AVE  
TRACY, CA 95304

**EQUIPMENT DESCRIPTION:**

65.6 MMBTU/HR HENAND YUANDA BOILER CO MODEL SZL25-1.25-T, STOKER-TYPE WALNUT-SHELL FUEL FIRED BOILER WITH UREA INJECTION SYSTEM, A CYCLONE, A BAGHOUSE FILTER SYSTEM, AND A SELECTIVE CATALYTIC REDUCTION SYSTEM (BOILER #2)

## CONDITIONS

1. Authority to Construct (ATC) permits N-8887-1 through '-18-0 and '-21-0 shall be cancelled prior to implementing any ATC permits N-8887-22-0 through '-28-0. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. 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]
4. 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]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. {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]
7. 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]

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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

N-8887-23-0 : Jan 31 2022 9:00AM -- KAH/LONJ : Joint Inspection NOT Required

8. During all types of operation, ammonia injection into the SCR system shall occur once the minimum temperature established during the initial source testing at the catalyst face has been reached to ensure NO<sub>x</sub> emission reductions can occur with a reasonable level of ammonia slip. The minimum temperature established during the initial testing shall be administratively included in the permit to operate. The established temperature may be modified administratively as necessary following any replacement of the SCR catalyst material. [District Rule 2201]
9. 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]
10. The baghouse shall be maintained and operated according to manufacturer's specifications. [District Rule 2201]
11. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
12. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]
13. The differential pressure gauge reading range shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201]
14. Material removed from the baghouse shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
15. Replacement bags numbering at least 10% of the total number of bags in the baghouse shall be maintained on the premises. [District Rule 2201]
16. Differential operating pressure shall be monitored and recorded continuously each day this boiler operates. [District Rule 2201]
17. The baghouse shall be thoroughly inspected annually for tears, scuffs, abrasions, holes, or any evidence of particulate matter breakthrough and shall be replaced as needed. [District Rule 2201]
18. Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable steady state operation of the boiler and associated system. [District Rule 2201]
19. Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the boiler is first fired, whichever occurs first. The commissioning period shall terminate when the boiler has completed initial source testing, completed final boiler tuning, and is available for commercial operation. [District Rule 2201]
20. During the commissioning period, the emission rates from the boiler system shall not exceed any of the following limits: NO<sub>x</sub> (as NO<sub>2</sub>) - 1.896 lb/hr and 45.6 lb/day; VOC (as CH<sub>4</sub>) - 1.22 lb/hr and 29.2 lb/day; CO - 23.452 lb/hr and 562.8 lb/day; PM<sub>10</sub> - 0.236 lb/hr and 5.7 lb/day; SO<sub>x</sub> (as SO<sub>2</sub>) - 2.296 lb/hr and 55.1 lb/day or NH<sub>3</sub> (from SCR system) - 0.846 lb/hr and 20.3 lb/day. [District Rule 2201]
21. During commissioning period, NO<sub>x</sub>, CO and SO<sub>x</sub> emissions rate shall be monitored and recorded using installed and calibrated CEMS. [District Rule 2201]
22. Commissioning period PM<sub>10</sub>, VOC and NH<sub>3</sub> emissions rate shall be estimated using emission factors (lb/MMBtu) from the initial source testing, actual fuel heat input rate (MMBtu/hr), and hours of operation (hr/day). [District Rule 2201]
23. The total annual mass emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, VOC and NH<sub>3</sub> emissions that are emitted during the commissioning period shall accrue towards the annual emission limits. [District Rule 2201]
24. For commissioning period, the owner or operator shall keep records of following items: (1) Date, (2) Type of commissioning activities performed, (3) Heat input rate to the boiler (MMBtu/hr), (4) Hours of boiler operation (hours), and (5) Hourly, daily and up-to-date total annual mass emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, VOC and NH<sub>3</sub>. [District Rule 2201]
25. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. [District Rule 2201]

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26. Startup is defined as the period of time beginning when the unit is heated to the operating temperature and pressure from a shutdown status or hot standby condition. [District Rule 2201]
27. Shutdown is defined as the period of time during which a unit is taken from operational to non-operational status by allowing it to cool down from its operating temperature and pressure to an ambient temperature, or to a hot standby condition. [District Rule 2201]
28. Only walnut shells shall be used as fuel in this boiler. [District Rules 2201 and 4102]
29. Upon completing commissioning period, startup period shall not exceed any of the following limits: 12 hours during any one day and 24 hours per calendar year. [District Rules 2201 and 4352]
30. Upon completing commissioning period, shutdown period shall not exceed any of the following limits: 12 hours during any one day and 24 hours per calendar year. [District Rules 2201 and 4352]
31. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. [District Rule 4352]
32. Upon completing commissioning period, during periods of startup and shutdown, emissions from this boiler shall not exceed any of the following limits: 0.0289 lb-NO<sub>x</sub>/MMBtu (expressed as NO<sub>2</sub>), 0.3575 lb-CO/MMBtu, and 0.0186 lb-VOC/MMBtu (expressed as CH<sub>4</sub>), all emission limits averaged over the entire startup or shutdown period. [District Rule 2201]
33. Upon completing commissioning period, except during periods of startup and shutdown, emissions from this boiler shall not exceed any of the following limits: 0.0179 lb-NO<sub>x</sub>/MMBtu (expressed as NO<sub>2</sub>) over a block 24-hour average basis, 0.071 lb-CO/MMBtu over a block 24-hour average basis, 0.0036 lb-VOC/MMBtu (expressed as CH<sub>4</sub>) over a 30-minute period. [District Rules 2201 and 4352]
34. Upon completing commissioning period, during periods of startup, shutdown or steady state, emissions from this boiler shall not exceed any of the following limits: 0.035 lb-SO<sub>x</sub>/MMBtu (expressed as SO<sub>2</sub>) on a block 24-hour average basis and 0.02 lb-SO<sub>x</sub>/MMBtu (expressed as SO<sub>2</sub>) on a rolling 30-day average basis, and 0.0036 lb-PM<sub>10</sub>/MMBtu (both filterable and condensable). [District Rules 2201 and 4352]
35. Upon completing commissioning period, during periods of startup, shutdown or steady state, ammonia (NH<sub>3</sub>) slip emissions associated with boiler's NO<sub>x</sub> control system shall not exceed 0.0129 lb/MMBtu. [District Rule 2201]
36. Emissions from this boiler shall not exceed any of the following limits: 9,899 lb-NO<sub>x</sub>/year (expressed as NO<sub>2</sub>), 11,021 lb-SO<sub>x</sub>/year (expressed as SO<sub>2</sub>), 1,984 lb-PM<sub>10</sub>/year, 40,026 lb-CO/year, 2,030 lb-VOC/year (expressed as CH<sub>4</sub>) and 7,108 lb-NH<sub>3</sub>/year. These limits are on a 12 consecutive month rolling basis. Compliance with NO<sub>x</sub>, CO and SO<sub>x</sub> limits shall be determined from CEMS data. Compliance with PM<sub>10</sub>, VOC and NH<sub>3</sub> limits shall be determined by calculating emissions using emission factors (the most recent source test results), actual heat input to the boiler, and actual operating time. [District Rule 2201]
37. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, SO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]
38. 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]
39. Source testing to measure startup and shutdown NO<sub>x</sub>, CO and VOC emissions shall be conducted within 60 days of initial startup. CEMS relative accuracy for NO<sub>x</sub>, SO<sub>x</sub> and CO shall be determined during startup and shutdown source testing in accordance with 40 CFR 60, Appendix F (Relative Accuracy Audit). [District Rule 2201]
40. Source testing to measure steady state NO<sub>x</sub>, CO, PM<sub>10</sub>, SO<sub>x</sub>, VOC, and NH<sub>3</sub> emissions shall be conducted within 60 days of initial startup and at least once 12 months thereafter. [District Rules 2201 and 4352]
41. 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. [District Rules 2201 and 4352]

CONDITIONS CONTINUE ON NEXT PAGE

42. No compliance determination shall be established within two hours after a period in which fuel flow to the unit is zero, or is shut off for 30 minutes or longer. [District Rules 2201 and 4352]
43. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Methods 7E and 19 or CARB Method 100 and EPA Method 19. [District Rules 1081 and 4352]
44. CO emissions for source test purposes shall be determined using EPA Method 10, EPA Method 3A or CARB Method 100. [District Rules 1081 and 4352]
45. PM<sub>10</sub> emissions for source test purposes shall be determined using EPA Methods 201A, 202, and 19. [District Rules 1081 and 4352]
46. In lieu of performing a source test for PM<sub>10</sub>, the results of the total particulate test may be used for compliance with the PM<sub>10</sub> emission limit provided the results include both the filterable and condensable (back half) particulates, and that all particulate matter is assumed to be PM<sub>10</sub>. If this option is exercised, source testing shall be conducted using CARB Method 5 or EPA Method 5 (including condensable (back half) particulates). [District Rule 1081]
47. Stack gas oxygen shall be determined using EPA Method 3 or 3A or CARB Method 100. [District Rules 1081 and 4352]
48. SO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 6, EPA Method 6C, EPA Method 8 or CARB Method 100. [District Rules 1081 and 4352]
49. VOC emissions for source test purposes shall be determined using EPA Method 18, 25A, or 25B, or ARB Method 100. [District Rule 1081]
50. Stack gas velocity shall be determined using EPA Method 2. [District Rules 1081 and 4352]
51. Stack gas moisture content shall be determined using EPA Method 4. [District Rules 1081 and 4352]
52. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081]
53. Testing to determine the higher heating value (HHV) of the fuel used in this boiler shall be conducted at least once every 12 months. [District Rules 1081 and 2201]
54. HHV in the fuel used in this boiler shall be conducted using ASTM 5865-10, EPA Method 19, ASTM D2015 or ASTM D3588 or District-approved equivalent method. [District Rules 1081, 2201 and 4352]
55. The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Emissions Monitoring System (CEMS) which continuously measures and records the exhaust gas NO<sub>x</sub>, SO<sub>x</sub>, CO and O<sub>2</sub> or CO<sub>2</sub> concentrations for each boiler. CEMS shall monitor emissions during all types of operation, including during startup and shutdown periods, provided the CEMS passes the relative accuracy requirement specified herein during startups and shutdowns periods. If relative accuracy of CEMS cannot be demonstrated during startup or shutdown periods, CEMS results during startup and shutdown events shall be replaced with startup emission rates obtained during initial source testing. [District Rules 1080, 2201 and 4352]
56. Each CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rules 1080, 2201 and 4352]
57. Each CEMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 for CEMS and Part 60, Appendix B Performance Specification 6 (PS6), or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rules 1080 and 2201]
58. In accordance with 40 CFR Part 60, Appendix F, NO<sub>x</sub>, SO<sub>x</sub>, CO and O<sub>2</sub> or CO<sub>2</sub> monitors must be audited at least once each calendar quarter, by conducting cylinder gas audits (CGA) or relative accuracy audits (RAA). CGA or RAA may be conducted three of four calendar quarters, but no more than three calendar quarters in succession. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rules 1080, 2201 and 4352]
59. The owner/operator shall perform a RATA for NO<sub>x</sub>, SO<sub>x</sub>, CO and O<sub>2</sub> or CO<sub>2</sub> (as specified in 40 CFR Part 60, Appendix F) and flow rate sensor at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the CEMS equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F for CEMS equipment. [District Rules 1080, 2201 and 4352]

CONDITIONS CONTINUE ON NEXT PAGE

60. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080]
61. The CEMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rules 1080, 2201 and 4352]
62. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CEMS. This summary shall be in the form and the manner prescribed by the District. [District Rules 1080 and 2201]
63. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEMS data polling software system and shall make CEMS data available to the District's automated polling system on a daily basis [District Rules 1080, 2201 and 4352]
64. Upon notice by the District that the facility's CEMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEMS data is sent to the District by a District-approved alternative method. [District Rule 1080]
65. The owner or operator shall maintain the following records for CEMS equipment: (1) Date, time and duration of any malfunction; (2) Date of performance testing; (3) Date of evaluations, calibrations, checks, and adjustments; and (4) Date and time period for which CEMS was inoperative. [District Rules 1080, 2201 and 4352]
66. The owner or operator shall maintain records of NO<sub>x</sub>, SO<sub>x</sub> and CO emissions and submit a written report each calendar quarter to the District containing the following information for each operating day: (1) Calendar date; (2) NO<sub>x</sub> (expressed as NO<sub>2</sub>), SO<sub>x</sub> and CO emission rate (lb/hr) measured at the exhaust of each boiler; (3) NO<sub>x</sub> (expressed as NO<sub>2</sub>), SO<sub>x</sub> and CO emissions rate factor (lb/MMBtu, over a block 24-hour average basis), (4) Total daily NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/day) calculated at the end of each operating day from the measured total hourly NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates; (5) The 30-day rolling average SO<sub>x</sub> emission rate (lb/MMBtu); (6) The total monthly NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/month) calculated at the end of each month using total daily NO<sub>x</sub>, SO<sub>x</sub> and CO emissions rates; (7) The total annual NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates (lb/year, on a rolling 12-month basis) calculated at the end of each month using total monthly NO<sub>x</sub> emission rate; (8) Identification of the operating days when NO<sub>x</sub>, SO<sub>x</sub> and CO emission rates are in excess of the permitted levels, with the reasons for such excess emissions as well as a description of corrective actions taken; (9) Identification of the operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (10) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding such data; (11) Identification of each parameter used in calculations; (12) Identification of the times when the pollutant concentration exceeded full span of the CEMS; (13) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 6; (14) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of Part 60; and (15) A negative declaration when no excess emissions occurred. The report is due on the 30th day following the end of the calendar quarter. [District Rules 1080, 2201 and 4352]
67. The owner or operator may submit electronic quarterly reports in lieu of submitting the written reports. The format of each quarterly electronic report shall be coordinated with the District. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this permit was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the District to obtain their agreement to submit reports in this alternative format. [District Rules 1080, 2201 and 4352]
68. The owner or operator shall maintain an operating log that includes, on a daily basis: (1) Actual local startup and shutdown time, (2) Total hours of operation, (3) Duration of each start-up, (4) Duration of each shutdown, (5) Total duration of all startups occurred in a given calendar year, (6) Total duration of all shutdowns occurred in a given calendar year, (7) SCR face temperature records, (8) Baghouse differential pressure records, (9) Quantity of the fuel combusted in this boiler. [District Rule 2201]
69. The owner or operator shall maintain records of monthly and annual (12-month rolling basis) PM<sub>10</sub>, VOC and NH<sub>3</sub> emissions. [District Rule 2201]

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CONDITIONS CONTINUE ON NEXT PAGE

70. The owner or operator shall keep records of all maintenance of the baghouse, including all change outs of bags or filter media. These records shall include identification of the equipment, date of inspection, any corrective action taken, and identification of the personnel performing the inspection. [District Rule 2201]
71. The owner or operator shall keep monthly records of the type, quantity, and the HHV of the fuel used in this boiler. [District Rule 4352]
72. Except during periods of startup, shutdown, or malfunction, PM emissions from this boiler shall not exceed 0.030 lb/MMBtu. [40 CFR 60.43c(e)(1) and 40 CFR 60.43c(d)]
73. EPA Method 1 of Appendix A of 40 CFR Part 60 shall be used to select the sampling site and the number of traverse sampling points. [40 CFR 60.45c(a)(1)]
74. EPA Method 3A or 3B of Appendix A-2 of 40 CFR Part 60 shall be used for gas analysis when applying Method 5 of Appendix A-3 of 40 CFR Part 60 or EPA Method 17 of Appendix A-6 of 40 CFR Part 60. [40 CFR 60.45c(a)(2)]
75. PM emissions shall be determined EPA Method 5, or 17 of Appendix A of 40 CFR Part 60 provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). [40 CFR 60.45c(a)(3)]
76. Each PM testing run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the District when necessitated by process variables or other factors. [40 CFR 60.45c(a)(4)]
77. For Method 5 of Appendix A in 40 CFR Part 60, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F). [40 CFR 60.45c(a)(5)]
78. For determination of PM emissions, an oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) measurement shall be obtained simultaneously with each run of Method 5, or 17 of Appendix A of 40 CFR Part 60 by traversing the duct at the same sampling location. [40 CFR 60.45c(a)(6)]
79. For each testing run using Method 5 or 17 of Appendix A of 40 CFR Part 60, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using: (i) The O<sub>2</sub> or CO<sub>2</sub> measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and (iii) The dry basis emission rate calculation procedure contained in Method 19 of Appendix A of 40 CFR Part 60. [40 CFR 60.45c(a)(7)]
80. Except during periods of startup, shutdown, or malfunction, exhaust discharge from this unit shall not exhibit greater than 20 percent opacity (6-minute average), with an exception of one 6-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43c(c) and 40 CFR 60.43c(d)]
81. EPA Method 9 of Appendix A-4 and the procedure in section 60.11 of 40 CFR Part 60 shall be used for determining the opacity of stack emissions. [40 CFR 60.45c(a)(8) and 40 CFR 60.47c(a)]
82. The owner or operator shall install, operate and maintain a bag leak detection system to monitor the performance of the fabric filter baghouse according to the requirements in 40 CFR 60.48Da(o)(4) of 40 CFR Part 60. [40 CFR 60.47c(a)]
83. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. [40 CFR 60.47c(a)]
84. During the latest Method 9 test, if no visible emissions are observed, a subsequent Method 9 must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(i)]
85. During the latest Method 9 test, if visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(ii)]
86. During the latest Method 9 test, if the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later. [40 CFR 60.47c(a)(1)(iii)]

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CONDITIONS CONTINUE ON NEXT PAGE



87. During the latest Method 9 test, if the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 must be completed within 45 calendar days from the date that the most recent performance test was conducted. [40 CFR 60.47c(a)(1)(iv)]
88. During the latest Method 9 test, if the maximum 6-minute opacity is less than 10 percent, the owner or operator may, as an alternative to performing subsequent Method 9, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR Part 60 according to the procedures specified in paragraphs 40 CFR 60.47c(a)(2)(i) and (ii). [40 CFR 60.47c(a)(2)]
89. During the latest Method 9 test, if the maximum 6-minute opacity is less than 10 percent, the owner or operator may, as an alternative to performing subsequent Method 9 of, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the District. The observations shall be similar, but not necessarily identical, to the requirements in paragraph 40 CFR 60.47c(a)(2). For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. [40 CFR 60.47c(a)(3)]
90. The owner or operator shall submit notification of the date of construction and actual startup. This notification shall also include design heat input capacity and anticipated annual capacity factor. [40 CFR 60.48c(a)]
91. The owner or operator shall submit excess emission reports, every 6-month period, for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements, as applicable to the visible emissions monitoring method used: (1) For each performance test conducted using Method 9, the owner or operator shall keep the records of (i) Dates and time intervals of all opacity observation periods; (ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and (iii) Copies of all visible emission observer opacity field data sheets; (2) For each performance test conducted using Method 22, the owner or operator shall keep the records including the information of (i) Dates and time intervals of all visible emissions observation periods; (ii) Name and affiliation for each visible emission observer participating in the performance test; (iii) Copies of all visible emission observer opacity field data sheets; and (iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements. (3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the District. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period. [40 CFR 60.48c(c) and 40 CFR 60.48c(j)]
92. The owner or operator shall keep records of the date and the amount of each fuel combusted during each operating day. [40 CFR 60.48c(g)(1)]
93. The owner or operator shall retain all records on site for a period of five year following the date of such record. These records shall be made available to the District, CARB and EPA upon request. [District Rules 1070, 2201, and 4352, 40 CFR 60.48c(i)]

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*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-8887-24-0

**LEGAL OWNER OR OPERATOR:** TRACY RENEWABLE ENERGY LLC

**MAILING ADDRESS:** P O BOX 583  
TRACY, CA 95378

**LOCATION:** 9251 ARBOR AVE  
TRACY, CA 95304

**EQUIPMENT DESCRIPTION:**

POTATO RECEIVING, STORAGE AND PROCESSING OPERATIONS CONSISTING OF POTATO RECEIVING HOPPERS, SHREDDING AND ASSOCIATED CONVEYING EQUIPMENT

## CONDITIONS

1. Authority to Construct (ATC) permits N-8887-1 through '-18-0 and '-21-0 shall be cancelled prior to implementing any ATC permits N-8887-22-0 through '-28-0. [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. Only pre-washed potatoes that are free of orchard soil and debris shall be received at this site. [District Rule 2201 and 4102]
6. PM10 emissions from this permit unit shall not exceed 0.000055 pounds per ton of potatoes received. [District Rule 2201]
7. The amount of potatoes received shall not exceed any of the following limits: 800 tons/day and 280,000 tons/year. [District Rule 2201]
8. The owner or operator shall keep records of the following items: (a) Date, (b) Amount of potatoes received (tons/day) and (c) An up-to-date record of the total amount of potatoes received (tons) during a given year. [District Rule 2201]
9. 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]

**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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

N-8887-24-0 : Jan 31 2022 9:00AM -- KAH/LONJ : Joint Inspection NOT Required

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-8887-25-0

**LEGAL OWNER OR OPERATOR:** TRACY RENEWABLE ENERGY LLC

**MAILING ADDRESS:** P O BOX 583  
TRACY, CA 95378

**LOCATION:** 9251 ARBOR AVE  
TRACY, CA 95304

**EQUIPMENT DESCRIPTION:**

POTATO PROCESSING OPERATION CONSISTING OF A STEAM-OPERATED POTATO DRYER SERVED BY A HIGH EFFICIENCY CYCLONE DISCHARGED THROUGH A WATER SCRUBBER, AND TWO ENCLOSED DRIED PRODUCT STORAGE SILOS VENTED TO THE DRYER HIGH EFFICIENCY CYCLONE AND ASSOCIATED CONVEYING EQUIPMENT

## CONDITIONS

1. Authority to Construct (ATC) permits N-8887-1 through '-18-0 and '-21-0 shall be cancelled prior to implementing any ATC permits N-8887-22-0 through '-28-0. [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. PM10 emissions from the storage silos shall not exceed 0.000315 pounds per ton of dried potatoes conveyed into the silos. [District Rule 2201]
6. The total amount of dried potatoes conveyed into both silos shall not exceed any of the following limits: 76.26 tons/day and 26,691 tons/year. [District Rule 2201]
7. The owner or operator shall keep records of the following items: (a) Date, (b) Amount of dried potatoes loaded into the silos (tons/day) and (c) An up-to-date record of the total amount of dried potatoes loaded (tons) into the silos during a given year. [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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

N-8887-25-0 : Jan 31 2022 9:00AM -- KAH/LONJ : Joint Inspection NOT Required

8. VOC emissions from the dryer shall not exceed 0.00813 pounds per ton of raw potatoes processed. [District Rule 2201]
9. PM10 emissions from the dryer shall not exceed 0.010 pounds per ton of raw potatoes processed. [District Rule 2201]
10. The amount of raw potatoes processed through the dryer shall not exceed any of the following limits: 246 tons/day and 86,100 tons/year. [District Rule 2201]
11. Source testing to determine the PM10 and VOC emissions from the dryer at the outlet of the water scrubber shall be conducted within 60 days of producing sellable dried potatoes. [District Rule 2201]
12. {33} Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
13. {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]
14. During source testing, the dryer shall either be operated at or above 90% of its maximum hourly processing capability. [District Rule 2201]
15. 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. [District Rule 2201]
16. 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 1081 and 2201]
17. Source testing to measure PM10 shall be conducted using either: EPA Method 201 or 201A, and 202; or CARB Method 5 in combination with 501. Should the applicant decided to use different methodology, the methodology must be approved by the District prior to its use. [District Rule 2201]
18. In lieu of performing a source test for PM10, the results of the total particulate test may be used for compliance with the PM10 emissions limit provided the results include both the filterable and condensable (back half) particulate, and that all particulate matter is assumed to be PM10. Source testing to measure concentrations of total particulate emissions shall be conducted using EPA method 5. [District Rule 2201]
19. A presurvey must be done prior to source testing to determine VOC compound analytes present in the effluent stream discharge at the outlet of the water scrubber using the methodology described in EPA Method 18, Section 16. The presurvey shall be used to develop the appropriate sampling approach to ensure efficient collection of all VOCs present in the effluent and to develop a specific list of target compounds to be quantified during the subsequent total VOC source testing. VOC source testing shall be conducted using EPA Methods 18, 25, 25A, or 308. EPA Methods 25 or 25A can be used to determine the total VOCs only if the analyzer is calibrated with appropriate compound as determined during the presurvey, and the total carbon mass is scaled to the mole fraction of an appropriate compound, with the balance being scaled to the relative mole fraction of other the identified compounds. The Method 25 or 25A scaling factor shall be reported in the source test report and may be listed in the Permit to Operate for future testing (if any) required by the District. Should the permittee decide to use a different test methodology, the methodology must be approved by the District. [District Rule 2201]
20. Stack gas velocity or volumetric flow rate shall be determined using EPA Methods 2, 2A, or 2D. [District Rule 2201]
21. {3721} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
22. The minimum scrubber water circulation rate (gallons per minute) range shall be established during the initial source test while demonstrating successful compliance with VOC and PM10 emission limits in this permit. The minimum scrubber water recirculation rate shall be administratively incorporated in the Permit to Operate. [District Rule 2201]
23. The scrubber water circulation rate (gallons per minute) shall be monitored and recorded each day the dryer operates. [District Rule 2201]
24. The owner or operator shall keep records of the following items: (a) Date, (b) Amount of raw potatoes processed in the dryer (tons/day) and (c) An up-to-date record of the total amount of raw potatoes loaded (tons) processed in the dryer during a given year. [District Rule 2201]

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CONDITIONS CONTINUE ON NEXT PAGE

25. 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]

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*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-8887-26-0

**LEGAL OWNER OR OPERATOR:** TRACY RENEWABLE ENERGY LLC

**MAILING ADDRESS:** P O BOX 583  
TRACY, CA 95378

**LOCATION:** 9251 ARBOR AVE  
TRACY, CA 95304

**EQUIPMENT DESCRIPTION:**  
DRIED-POTATO TRUCK LOADOUT OPERATION

## CONDITIONS

1. Authority to Construct (ATC) permits N-8887-1 through '-18-0 and '-21-0 shall be cancelled prior to implementing any ATC permits N-8887-22-0 through '-28-0. [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 dust collector serving the loadout system shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
6. Dried potatoes shall be loaded into truck trailers using an engineered telescopic spout consisting of inner and outer sleeve. The inner sleeve shall have cascade style (or other similar style) buckets to convey the material from the silo to the truck trailer. The outer sleeve shall have skirt made up of neoprene or other similar durable material connected at the end of the sleeve. The outer sleeve shall be discharged into a dust collector system. The dust collection system shall have sufficient vacuum to capture dust generated from conveying material dropping through the cascade style buckets (other similar style) in the inner sleeve. The telescopic spout shall be operated in a manner that maintains minimum drop height of the material such that the loading process remains in compliance with visible emission limit(s) in this permit. [District Rule 2201]
7. The dust collector shall be maintained and operated according to manufacturer's specifications. [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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

N-8887-26-0 : Jan 31 2022 9:00AM -- KAH/LONJ : Joint Inspection NOT Required

8. The dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
9. Material removed from the dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
10. A spare set of filters in the dust collector shall be maintained on the premises. [District Rule 2201]
11. PM10 emissions from the truck trailer loading operation released through the dust collector shall not exceed 0.000016 pounds per ton of dried potatoes loaded into the truck trailer. [District Rule 2201]
12. The amount of dried potatoes loaded into the truck trailer shall not exceed any of the following limits: 162 tons/day and 26,691 tons/year. [District Rule 2201]
13. The owner or operator shall keep records of the following items: (a) Date, (b) Amount of dried potatoes loaded into trailer trucks (tons/day) and (c) An up-to-date record of the total amount of dried potatoes loaded (tons) into trailer trucks during a given year. [District Rule 2201]
14. Filters associated with the dust collection system 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 2201]
15. Records of equipment & associated control device(s) maintenance, inspections, and repair (including all change outs of filter media) shall be maintained. The records shall include the identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2201]
16. 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]

DRAFT

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-8887-27-0

**LEGAL OWNER OR OPERATOR:** TRACY RENEWABLE ENERGY LLC

**MAILING ADDRESS:** P O BOX 583  
TRACY, CA 95378

**LOCATION:** 9251 ARBOR AVE  
TRACY, CA 95304

**EQUIPMENT DESCRIPTION:**  
WALNUT SHELL RECEIVING AND HANDLING OPERATION

## CONDITIONS

1. Authority to Construct (ATC) permits N-8887-1 through '-18-0 and '-21-0 shall be cancelled prior to implementing any ATC permits N-8887-22-0 through '-28-0. [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. Walnut shells shall be received via truck trailers and shall never be dumped onto the ground or stockpiled onto the ground; rather the trailers shall be docked and metered slowly into the bins for conveying the material to the boilers using enclosed conveying system. [District Rule 2201 and 4102]
6. PM10 emissions from walnut shell receiving and transferring operations shall not exceed 0.001563 pounds per ton of material processed. [District Rule 2201]
7. The amount of walnut shells received shall not exceed any of the following limits: 192 tons/day and 67,200 tons/year. . [District Rule 2201]
8. The owner or operator shall keep records of the following items: (a) Date, (b) Amount of walnut shells received (tons/day) and (c) An up-to-date record of the total amount of walnut shells received (tons) during a given year. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

N-8887-27-0 : Jan 31 2022 9:00AM -- KAH/LONJ : Joint Inspection NOT Required



9. 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]

DRAFT

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-8887-28-0

**LEGAL OWNER OR OPERATOR:** TRACY RENEWABLE ENERGY LLC

**MAILING ADDRESS:** P O BOX 583  
TRACY, CA 95378

**LOCATION:** 9251 ARBOR AVE  
TRACY, CA 95304

**EQUIPMENT DESCRIPTION:**

TRONA OR HYDRATED LIME RECEIVING AND STORAGE OPERATION WITH ONE 1,300 CUBIC FOOT (APPROX. DIMENSIONS 26 FEET TALL, 8 FEET DIAMETER) SILO SERVED BY A DUST COLLECTION OR BIN VENT FILTRATION SYSTEM

## CONDITIONS

1. Authority to Construct (ATC) permits N-8887-1 through '-18-0 and '-21-0 shall be cancelled prior to implementing any ATC permits N-8887-22-0 through '-28-0. [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 bin vent filter or dust collector serving the storage silo shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]
6. The bin vent filter or dust collector shall be maintained and operated according to manufacturer's specifications. [District Rule 2201]
7. The bin vent filter or dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
8. The bin vent filter or dust collector system shall be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

N-8887-28-0 : Jan 31 2022 9:00AM -- KAH/LONJ : Joint Inspection NOT Required

9. The differential pressure gauge reading range shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201]
10. Material removed from the bin vent filter or dust collector system shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
11. Replacement bags numbering at least 10% of the total number of bags in the bin vent filter or dust collector shall be maintained on the premises. [District Rule 2201]
12. PM10 emissions from trona or hydrated lime material receiving and storage operation shall not exceed 0.0049 pounds per ton of material processed. [District Rule 2201]
13. The amount of both trona and hydrated lime material shall not exceed any of the following limits: 25 tons per day and 9,125 tons per year. [District Rule 2201]
14. The owner or operator shall keep records of the following items: (a) Date, (b) Name of the material, (c) Quantity of the material received (tons/day) and (d) An up-to-date record of the total quantity of the materials received (tons) during a given year. [District Rule 2201]
15. Differential operating pressure shall be monitored and recorded on each day the operator loads the silo. [District Rule 2201]
16. Bin vent filter or dust collector shall be thoroughly inspected annually for tears, scuffs, abrasions, holes, or any evidence of particulate matter breakthrough and shall be replaced as needed. [District Rule 2201]
17. Records of all maintenance of the bin vent filter or dust collector system, including all change outs of bags or filter media, shall be maintained. These records shall include identification of the equipment, date of inspection, any corrective action taken, and identification of the personnel performing the inspection. [District Rule 2201]
18. 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]

DRAFT

**Appendix B**  
**BACT Guideline**

San Joaquin Valley  
Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 5.2.6\***

Last Update: 2/22/1999

**Feed Mill - High Moisture Grain Pelletizing & Drying Operation**

<b>Pollutant</b>	<b>Achieved in Practice or contained in the SIP</b>	<b>Technologically Feasible</b>	<b>Alternate Basic Equipment</b>
VOC		Natural gas firing	
PM10	High Efficiency Cyclone and High Moisture Feed (0.02 lb PM10/ton of product dried.)		
NOx	64.2 ppmv @ 3% O2 (0.077 lb/MMBtu/hr ) Natural gas burner	20 ppmv @ 3% O2 (0.024 lb/MMBtu/hr ) Natural gas burner	

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

**\*This is a Summary Page for this Class of Source**

**Appendix C**  
**BACT Analysis**

# Top-Down BACT Analysis

## **N-8887-22-0 & '-23-0:**

As stated previously, based on the BACT analysis for solid fuel fired boiler prepared under project N-1180873, the following achieved-in-practice standards and the technically feasible controls will be evaluated for various pollutants from these units.

**NOx:**

### **Step 1: Identify All Possible Control Technologies**

Achieved-in-Practice (AIP):

- 0.065 lb/MMBtu, block 24-hour average (selective catalytic reduction for 90% control efficiency, or equal, and natural gas auxiliary fuel)

Technologically Feasible:

None

Alternate Basic Equipment:

None

### **Step 2: Eliminate Technologically Infeasible Options**

All control options listed in step 1 are technologically feasible.

### **Step 3: Rank Remaining Control Technologies by Control Effectiveness**

1. 0.065 lb/MMBtu, block 24-hour average (selective catalytic reduction for 90% control efficiency, or equal, and natural gas auxiliary fuel) - Achieved-in-Practice

### **Step 4: Cost Effectiveness Analysis**

There is no technologically feasible option identified in step 3 above. Therefore, cost effectiveness analysis is not required.

### **Step 5: Select BACT**

BACT is to comply with the achieved-in-practice standard of 0.065 lb-NOx/MMBtu, block 24-hour average.

The applicant has proposed to achieve 0.0179 lb-NOx/MMBtu during steady state and 0.0289 lb-NOx/MMBtu during startup using urea injection system and a selective catalytic reduction system. Thus, this proposal complies with the BACT requirements for NOx emissions.

## SOx:

### Step 1: Identify All Possible Control Technologies

#### Achieved-in-Practice (AIP):

An EF of 0.054 lb/MMBtu on a block 24-hour average basis was identified as AIP standard under N-1180873. During amendments to Rule 4352, it was determined that solid fuel fired (biomass) boilers achieves standards of 0.035 lb/MMBtu on a block 24-hour average basis and 0.02 lb/MMBtu on a rolling 30-day average basis. Since these standards are identified in the draft amendments to Rule 4352, these standards are considered to be the minimum standards for new solid fuel fired boilers (biomass).

- 0.035 lb/MMBtu on a block 24-hour average and 0.02 lb/MMBtu on a rolling 30-day average basis

#### Technologically Feasible:

- 0.001 lb/MMBtu<sup>3</sup> on a block 24-hour average (Flue gas desulfurization using wet scrubber or semi-dry absorber capable of achieving 98% control efficiency, or equal, and natural gas auxiliary fuel)

#### Alternate Basic Equipment:

None

### Step 2: Eliminate Technologically Infeasible Options

All control options listed in step 1 are technologically feasible.

### Step 3: Rank Remaining Control Technologies by Control Effectiveness

1. 0.001 lb/MMBtu on a block 24-hour average – Tech. feasible
2. 0.035 lb/MMBtu on a block 24-hour average and 0.02 lb/MMBtu on a rolling 30-day average basis - Achieved-in-Practice

### Step 4: Cost Effectiveness Analysis

#### Option 1: 0.001 lb/MMBtu on a block 24-hour average (Wet SOx scrubber, Spray Dry Absorber)

This project was deemed complete before June 1, 2021. Therefore, cost effectiveness analysis will be conducted using 10% interest rate over a 10-year period. Cost effectiveness threshold (\$/ton) of \$ 18,300/ton of SOx reduced, in effect, prior to June 1, 2021 will be used for this project.

Per cost effectiveness worksheets (see pages below), cost of reduction (\$/ton) for installing wet scrubbing and spray dry absorbers are \$286,592/ton of SOx reduced and \$316,955/ton of SOx reduced, respectively. Since the cost of reduction of each technology is more than the \$18,300/ton of SOx reduction threshold, the use of these technologies is not required for this project.

---

<sup>3</sup>  $(0.02 \div (1-0.60)) \times (1-0.98) = 0.001$  lb/MMBtu



<b>Wet SOx Scrubber Cost</b>					
<b>Plant: Tracy Renewable Energy</b>					
<b>Combustor Rating</b>		65.6 MMBtu/hr		<b>Annual Reagent Cost (Wet Scrubber)</b>	
<b>MW Rating</b>		4.4 MW		Limestone Usage	0.00287328 tons/hr
<b>Current SOx limit</b>		0.02 lb/MMBtu		Limestone Usage	24.135552 tons/year
<b>Current SOx Control Efficiency</b>		60% EPA Cost Manual Section 5		Cost/ton Limestone	30 \$/ton
<b>Wet Scrubber SOx Control Efficiency</b>		98% EPA Cost Manual Section 5		Cost/year	724.06656
<b>Controlled Limit (Wet Scrubber)</b>		0.001 lb/MMBtu		<b>Annual Electricity Cost (Wet Scrubber)</b>	
<b>Operating Schedule</b>		8400 hr/year		Increased Fan Power Required (P)	74.04362017 kW
				Annual Electricity Required	621966.4094
<b>Item</b>	<b>Method of Calculation</b>	<b>Cost</b>		**Electricity Cost/KW	0.1602
<b>Direct Capital Costs</b>				Cost/year	99639.01879
*Total Purchased Equipment Costs (includes freight)	\$900/kw	\$3,989,189.19		<b>Annual Waste Disposal Cost (Wet Scrubber)</b>	
Total Direct Capital Costs		\$3,989,189.19		Waste Generation Rate	0.00520351 tons/hr
<b>Indirect Capital Costs</b>				Waste/year	43.71 tons/yr
Facilities	Included above	\$0.00		Cost/ton	30 \$/ton
Engineering	Included above	\$0.00		Cost/year	1311.28 \$/year
Process Contingency	Included above	\$0.00		<b>Annual Water Makeup Cost (wet scrubber)</b>	
Total Indirect Capital Costs	Included above	\$0.00		Makeup Water Consumption Rate	0.490449872 1000 gal/hour
Project Contingency	Included above	\$0.00		annual Makeup water Required	4119.778925 1000 gal/year
Total Capital Costs	E + I + J	\$3,989,189.19		Cost/gallon	0.0042 \$/gal
<b>Annualized Capital costs (10 years @ 10%)</b>	0.1627 * K	\$649,041.08		Cost/year	17303.07148 \$/year
<b>Direct Annual Costs</b>					
Operating Costs					
Operator	0.5 hr/shift, \$25/hr, 2 shifts/day, 350 days/yr	\$8,750.00			
Supervisor	0.15 * M	\$1,312.50			
Maintenance Costs					
Labor	0.5 hr/shift, \$25/hr, 2 shifts/day, 350 days/yr	\$8,750.00			
Material	1.0 * O	\$8,750.00			
<b>Utility Costs</b>					
Reagent Costs		\$724.07			
Electricity Costs		\$99,639.02			
Waste Disposal Costs		\$1,311.28			
Water Costs		\$17,303.07			
Total Direct Annual Costs	M + N + O + P + Q + R + S	\$146,539.94			
Indirect Annual Costs					
Overhead	0.6 * (M + N + O + P)	\$16,537.50			
Administrative	0.02 * A	\$79,783.78			
Insurance	0.01 * A	\$39,891.89			
Property Tax	0.01 * A	\$39,891.89			
Capital Recovery	0.13 * A	\$518,594.59			
Total Indirect Annual Costs	U + V + W + X + Y	\$694,699.66			
<b>Total Annualized Cost</b>	<b>L + T + Z</b>	<b>\$1,490,280.69</b>			
Potential to Emit SOx (current system)		5.5104 tons/year			
Potential to Emit (Wet Scrubber)		0.27552 tons/year			
<b>Emission Reductions</b>		<b>5.2 Tons/year</b>			
<b>Cost/ton of Emissions Reduced</b>		<b>\$286,592.00 \$/ton</b>			
Notes:					
*EPA Cost Manual Section 5 (April 2021)					
** <a href="https://www.eia.gov/electricity/data/browser/#/topic/7?agg=0.1&amp;geo=000000000004&amp;endsec=vg&amp;freq=M&amp;start=2010&amp;end=202010&amp;ctype=linechart&amp;ltype=pin&amp;rtype=s&amp;maptype=0&amp;">https://www.eia.gov/electricity/data/browser/#/topic/7?agg=0.1&amp;geo=000000000004&amp;endsec=vg&amp;freq=M&amp;start=2010&amp;end=202010&amp;ctype=linechart&amp;ltype=pin&amp;rtype=s&amp;maptype=0&amp;</a>					

Spray Drying Absorber (Dry Scrubber) Cost					
<b>Plant: Tracy Renewable Energy</b>			<b>Annual Reagent Cost (SDA)</b>		
Combustor Rating		65.6 MMBtu/hr	Limestone Usage	0.002206376 tons/hr	EPA Cost Manual Section 5 Eqn 1.33
MW Rating		4.4 MW	Limestone Usage	18.5335538 tons/year	
Current SOx limit		0.02 lb/MMBtu	Cost/ton Limeston	30 \$/ton	EPA Cost Manual Section 5
Current SOx Control Efficiency		60% EPA Cost Manual Section 5	Cost/year	556.0066613	
Wet Scrubber SOx Control Efficiency		98% EPA Cost Manual Section 5	<b>Annual Electricity Cost (SDA)</b>		
Controlled Limit (Spray dry absorber)		0.001 lb/MMBtu	Increased Fan Power Required (P)	85.30137691 kW	EPA Cost Manual Section 5 Eqn 1.36
Operating Schedule		8400 hr/year	Annual Electricity Required	716531.566	
			**Electricity Cost/KW	0.1602	
<b>Item</b>	<b>Method of Calculation</b>	<b>Cost</b>	Cost/year	114788.3569	
<b>Direct Capital Costs</b>			<b>Annual Waste Disposal Cost (SDA)</b>		
Total SCR Purchased Equipment Costs (includes fr	\$1000/kw	\$4,432,432.43	Waste Generation Rate	0.005122012 tons/hr	EPA Cost Manual Eqn 1.35
Total Direct Capital Costs		\$4,432,432.43	Waste/year	43.02 tons/yr	
<b>Indirect Capital Costs</b>			Cost/ton	30 \$/ton	EPA Cost Manual Section 5
Facilities	Included above	\$0.00	Cost/year	1290.75 \$/year	
Engineering	Included above	\$0.00	<b>Annual Water Makeup Cost (SDA)</b>		
ProcessContingency	Included above	\$0.00	Makeup Water Consumption Rate	0.361716743 1000 gal/hour	EPA Eqn 1.34
Total Indirect Capital Costs	Included above	\$0.00	annual Makeup water Required	3038.420643 1000 gal/year	
Project Contingency	Included above	\$0.00	Cost/gallon	0.0042 \$/gal	EPA Cost Manual Section 5
Total Capital Costs	E + I + J	\$4,432,432.43	Cost/year	12761.3667 \$/year	
<b>Annualized Capital costs (10 years @ 10%, project</b>	<b>0.1627 * K</b>	<b>\$721,156.76</b>			
<b>Direct Annual Costs</b>					
Operating Costs					
Operator	0.5 hr/shift, \$25/hr, 2 shifts/day, 350 days/yr	\$8,750.00			
Supervisor	0.15 * M	\$1,312.50			
Maintenance Costs					
Labor	0.5 hr/shift, \$25/hr, 2 shifts/day, 350 days/yr	\$8,750.00			
Material	1.0 * O	\$8,750.00			
<b>Utility Costs</b>					
Reagent Costs		\$556.01			
Electricity Costs		\$114,788.36			
Waste Disposal Costs		\$1,290.75			
Water Costs		\$12,761.37			
Total Direct Annual Costs	M + N + O + P + Q + R + S	\$156,958.98			
<b>Indirect Annual Costs</b>					
Overhead	0.6 * (M+N + O + P)	\$16,537.50			
Administrative	0.02 * A	\$88,648.65			
Insurance	0.01 * A	\$44,324.32			
Property Tax	0.01 * A	\$44,324.32			
Capital Recovery	0.13 * A	\$576,216.22			
Total Indirect Annual Costs	U + V + W + X + Y	\$770,051.01			
<b>Total Annualized Cost</b>	<b>L + T + Z</b>	<b>\$1,648,166.75</b>			
Potential to Emit SOx (current system)		5.5104 tons/year			
Potential to Emit (Wet Scrubber)		0.27552 tons/year			
<b>Emission Reductions</b>		<b>5.2 Tons/year</b>			
<b>Cost/ton of Emissions Reduced</b>		<b>\$316,955.00 \$/ton</b>			
Notes:					
*EPA Cost Manual Section 5 (April 2021)					
** <a href="https://www.eia.gov/electricity/data/browser/#/topic/7?agg=0.1&amp;geo=000000000004&amp;endsec=vg&amp;freq=M&amp;start=20101&amp;end=202010&amp;ctype=linechart&amp;type=pin&amp;rtype=s&amp;maptype=0&amp;rse=0&amp;pin=">https://www.eia.gov/electricity/data/browser/#/topic/7?agg=0.1&amp;geo=000000000004&amp;endsec=vg&amp;freq=M&amp;start=20101&amp;end=202010&amp;ctype=linechart&amp;type=pin&amp;rtype=s&amp;maptype=0&amp;rse=0&amp;pin=</a>					

Option 2: 0.035 lb/MMBtu on a block 24-hour average and 0.02 lb/MMBtu on a rolling 30-day average basis

The applicant has proposed to comply with this option. Therefore, cost effectiveness analysis is not required.

**Step 5: Select BACT**

BACT is to comply with the achieved-in-practice standard of 0.035 lb/MMBtu on a block 24-hour average and 0.02 lb/MMBtu on a rolling 30-day average basis.

The applicant has proposed to comply with the above standards with the use dry sorbent injection system. Thus, this proposal complies with the BACT requirements for SO<sub>x</sub> emissions.

**PM<sub>10</sub>:**

### **Step 1: Identify All Possible Control Technologies**

Achieved-in-Practice (AIP):

- 0.0214 lb/MMBtu, 30-minute average (multiclone and electrostatic precipitator or baghouse, or equal, and natural gas auxiliary fuel)

Technologically Feasible:

None

Alternate Basic Equipment:

None

### **Step 2: Eliminate Technologically Infeasible Options**

All control options listed in step 1 are technologically feasible.

### **Step 3: Rank Remaining Control Technologies by Control Effectiveness**

1. 0.0214 lb/MMBtu, 30-minute average (multiclone and electrostatic precipitator or baghouse, or equal, and natural gas auxiliary fuel) – Achieved-in-Practice

### **Step 4: Cost Effectiveness Analysis**

There is no technologically feasible option identified in step 3 above. Therefore, cost effectiveness analysis is not required.

### **Step 5: Select BACT**

BACT is to comply with the achieved-in-practice standard of 0.0214 lb/MMBtu, 30-minute average (multiclone and electrostatic precipitator or baghouse, or equal, and natural gas auxiliary fuel).

TRE has proposed to limit PM<sub>10</sub> emissions to 0.0036 lb/MMBtu for each boiler. Thus, this proposal complies with the BACT requirements for PM<sub>10</sub> emissions.

## **VOC:**

### **Step 1: Identify All Possible Control Technologies**

#### Achieved-in-Practice (AIP):

- 0.009 lb/MMBtu, 30-minute average (good combustion practices and natural gas auxiliary fuel)

#### Technologically Feasible:

None

#### Alternate Basic Equipment:

None

### **Step 2: Eliminate Technologically Infeasible Options**

All control options listed in step 1 are technologically feasible.

### **Step 3: Rank Remaining Control Technologies by Control Effectiveness**

1. 0.009 lb/MMBtu, 30-minute average (good combustion practices and natural gas auxiliary fuel) – Achieved-in-Practice

### **Step 4: Cost Effectiveness Analysis**

There is no technologically feasible option identified in step 3 above. Therefore, cost effectiveness analysis is not required.

### **Step 5: Select BACT**

BACT is to comply with the achieved-in-practice standard of 0.009 lb/MMBtu, 30-minute average (good combustion practices and natural gas auxiliary fuel).

TRE has proposed to limit VOC emissions to 0.0036 lb/MMBtu for each boiler. Thus, this proposal complies with the BACT requirements for VOC emissions.

## **N-8887-25-0:**

### **PM10:**

BACT guideline 5.2.6, feed mill – high moisture grain pelletizing & drying operation closely represent the process being proposed in this project.

### **Step 1: Identify All Possible Control Technologies**

#### Achieved-in-Practice (AIP):

- Use high efficiency cyclone and high moisture feed (0.02 lb-PM10/ton of product dried)

#### Technologically Feasible:

None

#### Alternate Basic Equipment:

None

### **Step 2: Eliminate Technologically Infeasible Options**

All control options listed in step 1 are technologically feasible.

### **Step 3: Rank Remaining Control Technologies by Control Effectiveness**

1. Use of high efficiency cyclone and high moisture feed (0.02 lb-PM10/ton of product dried) – Achieved-in-Practice

### **Step 4: Cost Effectiveness Analysis**

There is no technologically feasible option identified in step 3 above. Therefore, cost effectiveness analysis is not required.

### **Step 5: Select BACT**

BACT is to use high efficiency cyclone can limit PM10 emission rate to 0.02 lb-PM10/ton of product or lesser.

The applicant has proposed to use high efficiency cyclone and comply with 0.01 lb-PM10/ton of product. Thus, BACT requirements are satisfied.

**Appendix D**  
**HRA Summary**

# San Joaquin Valley Air Pollution Control District

## Risk Management Review and Ambient Air Quality Analysis

### Revised

To: Jag Kahlon – Permit Services

From: Keanu Morin – Technical Services

Date: December 1, 2021

Facility Name: Tracy Renewable Energy LLC

Location: 9251 Arbor Ave, Tracy

Application #(s): N-8887-22-0, -23-0, -24-0, -25-0, -26-0, -27-0, and 28-0

Project #: N-1204246

## 1. Summary

### 1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
22-0	1942.76	0.00	0.02	3.35E-06	Yes	Yes
23-0	1942.76	0.00	0.02	3.35E-06	Yes	Yes
24-0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	No	No
25-0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	No	No
26-0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	No	No
27-0	0.14	0.00	0.00	8.49E-10	No	No
28-0	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	N/A <sup>2</sup>	No	No
<b>Project Totals</b>	3885.67	0.00	0.03	6.70E-06		
<b>Facility Totals</b>	>1	0.00	0.03	6.70E-06		

Notes:

- Units 24-0, 25-0, and 26-0 will be processing food grade products. There are no Toxic Air Containments (TACs) in food grade products, therefore no further analysis is required.
- There are no TACs associated with Unit 28-0 based on the SDS provided by the processing engineer, therefore there is no further analysis required for Unit 28-0.



**1.2 AAQA**

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
<b>CO</b>	Pass		Pass		
<b>NO<sub>x</sub></b>	Pass				Pass
<b>SO<sub>x</sub></b>	Pass	Pass		Pass	Pass
<b>PM10</b>				Pass	Pass
<b>PM2.5</b>				Pass	Pass

Notes:

1. Results were taken from the attached AAQA Report.
2. The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted below.
3. Modeled PM10 concentrations were below the District SIL for non-fugitive sources of 5 µg/m<sup>3</sup> for the 24-hour average concentration and 1 µg/m<sup>3</sup> for the annual concentration.
4. Modeled PM2.5 concentrations were below the District SIL for non-fugitive sources of 1.2 µg/m<sup>3</sup> for the 24-hour average concentration and 0.2 µg/m<sup>3</sup> for the annual concentration.

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

Unit # 22-0, and 23-0

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

**T-BACT is required for this unit because of emissions of Hexavalent Chromium, which is a PM10.**

Technical Services received a request on May 6, 2021 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -22-0: 65.6 MMBTU/HR HENAND YUANDA BOILER CO MODEL SZL25-1.25-T, STOKER-TYPE WALNUT-SHELL FUEL FIRED BOILER WITH UREA INJECTION SYSTEM, A CYCLONE, A BAGHOUSE FILTER SYSTEM AND A SELECTIVE CATALYTIC REDUCTION SYSTEM
- Unit -23-0: 65.6 MMBTU/HR HENAND YUANDA BOILER CO MODEL SZL25-1.25-T, STOKER-TYPE WALNUT-SHELL FUEL FIRED BOILER WITH UREA INJECTION SYSTEM, A CYCLONE, A BAGHOUSE FILTER SYSTEM AND A SELECTIVE CATALYTIC REDUCTION SYSTEM
- Unit -24-0: POTATO RECEIVING, STORAGE AND PROCESSING OPERATIONS CONSISTING OF POTATO RECEIVING HOPPERS, SHREDDING AND ASSOCIATED CONVEYING EQUIPMENT
- Unit -25-0: POTATO PROCESSING OPERATION CONSISTING OF A POTATO STEAM-OPERATED DRYER SERVED BY A HIGH EFFICIENCY CYCLONE, AND TWO DRIED PRODUCT STORAGE SILOS AND CONVEYING EQUIPMENT
- Unit -26-0: DRIED-POTATO TRUCK LOADOUT OPERATION
- Unit -27-0: WALNUT SHELL RECEIVING AND HANDLING OPERATION

- Unit -28-0: TRONA OR HYDRATED LIME RECEIVING AND STORAGE OPERATION WITH ONE 1,300 CUBIC FOOT (APPROX. DIMENSIONS 26 FEET TALL, 8 FEET DIAMETER) SILO SERVED BY A DUST COLLECTION OR BIN VENT FILTRATION SYSTEM

## 2. RMR Report

### 2.1 Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the unit(s) or the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices(Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emissions from this proposed Biomass Saw Mill Waste, Agricultural Waste-Fired External Combustion unit were calculated using District approved emission factors based on the 1999 CARB Report, (Table 19, Biomass Fluidized Bed Combustor Combustion portion) Development of Toxics Emission Factors from Source Test Data Collected Under the Air Toxics Hot Spots Program.
- Toxic NH3 emissions for Unit 22-0 and 23-0 were calculated and provided by the processing engineer.
- Toxic emissions for Unit 27-0 were calculated using emission factors derived from a 1997 soil profile "Composite of three almond orchards" in EPA's Speciation program from Central Valley CA Almond Growers test data.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2004-2008 from Tracy (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

<b>Source Process Rates</b>					
<b>Unit ID</b>	<b>Process ID</b>	<b>Process Material</b>	<b>Process Units</b>	<b>Hourly Process Rate</b>	<b>Annual Process Rate</b>
22-0	1	Ag Waste	Tons	4.00	33,600.00
22-0	1	NH3	Lbs.	0.85	7,108
23-0	1	Ag Waste	Tons	4.00	33,600.00
23-0	1	NH3	Lbs.	0.85	7,108
27-0	1	PM <sub>10</sub>	Lbs.	0.012	102.00

<b>Point Source Parameters</b>						
<b>Unit ID</b>	<b>Unit Description</b>	<b>Release Height (m)</b>	<b>Temp. (°K)</b>	<b>Exit Velocity (m/sec)</b>	<b>Stack Diameter (m)</b>	<b>Vertical/Horizontal/Capped</b>
22-0	65.6 MMBtu/hr Walnut Shell Fired Boiler	24.38	448	23.07	1.52	Vertical
23-0	65.6 MMBtu/hr Walnut Shell Fired Boiler	24.38	448	23.07	1.52	Vertical

<b>Line Source Parameters</b>			
<b>Unit ID</b>	<b>Unit Description</b>	<b>Release Height (m)</b>	<b>Width (m)</b>
27-0	Walnut Shell Receiving and Unloading (Conveyor)	1.83	2.50

### 3. AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO<sub>2</sub> standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

The modeling analyses predicts the maximum air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and source parameters including emissions. These inputs are described in the sections that follow.

Ambient air concentrations of criteria pollutants are recorded at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following stations were used for this evaluation:

<b>Monitoring Stations</b>				
<b>Pollutant</b>	<b>Station Name</b>	<b>County</b>	<b>City</b>	<b>Measurement Year</b>
CO	Hazelton-HD, Stockton	San Joaquin	Stockton	2018
NOx	Tracy Airport	San Joaquin	Tracy	2018
PM10	Tracy Airport	San Joaquin	Tracy	2018
PM2.5	Manteca	San Joaquin	Manteca	2018
SOx	Fresno - Garland	Fresno	Fresno	2018

Technical Services performed modeling for directly emitted criteria pollutants with the emission rates below:

<b>Emission Rates (lbs/hour)</b>						
<b>Unit ID</b>	<b>Process</b>	<b>NOx</b>	<b>SOx</b>	<b>CO</b>	<b>PM10</b>	<b>PM2.5</b>
22-0	1	1.90	2.30	23.45	0.24	0.24
23-0	1	1.90	2.30	23.45	0.24	0.24
24-0	1	N/A	N/A	N/A	0.001	0.001
25-0	1	N/A	N/A	N/A	0.27	0.27
25-0	2	N/A	N/A	N/A	0.003	0.0005
26-0	1	N/A	N/A	N/A	0.0001	0.0001
27-0	1	N/A	N/A	N/A	0.012	0.0034
28-0	1	N/A	N/A	N/A	0.10	0.0375

<b>Emission Rates (lbs/year)</b>						
<b>Unit ID</b>	<b>Process</b>	<b>NOx</b>	<b>SOx</b>	<b>CO</b>	<b>PM10</b>	<b>PM2.5</b>
22-0	1	9,899	11,021	40,026	1,984	1,984
23-0	1	9,899	11,021	40,026	1,984	1,984
24-0	1	N/A	N/A	N/A	15.00	15.00
25-0	1	N/A	N/A	N/A	861.00	861.00
25-0	2	N/A	N/A	N/A	8.40	1.50
26-0	1	N/A	N/A	N/A	0.40	0.40
27-0	1	N/A	N/A	N/A	102.00	28.80
28-0	1	N/A	N/A	N/A	45.00	16.90

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state of federal air quality standard. The parameters outlined below and meteorological data for 2013-2017 from Stockton (rural dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Area Source Parameters					
Unit ID	Unit Description	Release Height (m)	X-Length (m)	Y -Length (m)	Area (m <sup>2</sup> )
24-0	Potato Receiving, Storage and Processing	1.83	29.77	31.34	932.99

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/ Horizontal/ Capped
22-0	65.6 MMBtu/hr Walnut Shell Fired Boiler	24.38	448	23.07	1.52	Vertical
23-0	65.6 MMBtu/hr Walnut Shell Fired Boiler	24.38	448	23.07	1.52	Vertical
25-0	Potato Drying	24.38	448	23.07	1.52	Vertical
25-0	Potato Drying (Silo 1)	6.71	294	0.0001	7.62	Capped
25-0	Potato Drying (Silo 2)	6.71	294	0.0001	7.62	Capped
26-0	Dried-Potato Truck Loadout Operation	6.10	294	19.79	0.10	Horizontal
28-0	Trona Storage Operation	7.93	294	19.79	0.10	Horizontal

Line Source Parameters			
Unit ID	Unit Description	Release Height (m)	Width (m)
27-0	Walnut Shell Receiving and Unloading (Conveyor)	1.83	2.50

## 4. Conclusion

### 4.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. However, the cancer risk for one or more units in this project is greater than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT) for Units 22-0 and 23-0.**

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

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

#### **4.2 AAQA**

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

#### **5. Attachments**

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary
- E. AAQA results

**Appendix E**  
**HAP Calculations**

**Tracy Renewable Energy LLC  
(N-8887)  
HAP Emissions Summary**

Substances	N-8887-19-0 Cooling tower	N-8887-21-0 Fire-pump emergency engine	N-8887-22-0 Walnut shell- fired boiler	N-8887-23-0 Walnut shell- fired boiler	N-8887-24-0 Potato receivling, storage and handling operations	N-8887-25-0 Potato drying and storage operations	N-8887-26-0 Dried potato loadout operation	N-8887-27-0 Walnut shell receiving and unloading operation	N-8887-28-0 Trona or hydrated lime receiving and storage operation	Total, all permit units (lb/yr)	HAP?	HAP, Total of all permit units (lb/yr)
1,3 Butadiene	--	4.82E-03	--	--	--	--	--	--	--	0.00	Y	0.00
Acenaphthene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Acenaphthylene	--	--	3.18E+00	3.18E+00	--	--	--	--	--	6.36		
Acetaldehyde	--	6.59E-03	--	--	--	--	--	--	--	0.01	Y	0.01
Aluminum	--	--	--	--	--	--	9.77E+00	--	--	9.77		
Ammonia	--	--	--	--	--	--	2.02E-01	--	--	0.20		
Anthracene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Antimony	--	--	--	--	--	--	1.04E-02	--	--	0.01	Y	0.01
Arsenic	--	3.85E-03	5.28E-01	5.28E-01	--	--	5.10E-04	--	--	1.06	Y	1.06
Barium	--	--	--	--	--	--	8.93E-02	--	--	0.09		
Benzene	--	2.16E-02	2.59E+01	2.59E+01	--	--	--	--	--	51.77	Y	51.77
Benzo(a)anthracene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Benzo(a)pyrene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Benzo(b)fluoranthene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Benzo[g,h,i] perylene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Benzo[k] Fluoranthene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Beryllium	--	5.30E-05	7.26E-02	7.26E-02	--	--	--	--	--	0.15	Y	0.15
Bromine Atom	--	--	--	--	--	--	1.12E-03	--	--	0.00		
Cadmium	--	1.28E-03	2.98E+00	2.98E+00	--	--	3.06E-04	--	--	5.96	Y	5.96
Carbon Tetrachloride	--	5.58E-03	--	--	--	--	--	--	--	0.01	Y	0.01
Chlorobenzene	--	4.80E-03	--	--	--	--	--	--	--	0.00	Y	0.00
Chloroform	--	4.63E-03	--	--	--	--	--	--	--	0.00	Y	0.00
Chromium	--	2.57E-03	9.68E-02	9.68E-02	--	--	1.22E-03	--	--	0.20	Y	0.20
Chrysene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Cobalt	--	--	--	--	--	--	8.16E-04	--	--	0.00	Y	0.00
Copper	--	--	2.07E+00	2.07E+00	--	--	1.72E-02	--	--	4.15		
Dibenz(A,H)Anthracene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Dioxin 4D	--	--	1.50E-05	1.50E-05	--	--	--	--	--	0.00		
Dioxin 5D 12378	--	--	3.70E-05	3.70E-05	--	--	--	--	--	0.00		
Dioxin 6D 123478	--	--	4.10E-05	4.10E-05	--	--	--	--	--	0.00		
Dioxin 6D 123678	--	--	4.27E-05	4.27E-05	--	--	--	--	--	0.00		
Dioxin 6D 123789	--	--	3.86E-05	3.86E-05	--	--	--	--	--	0.00		
Dioxin 7D	--	--	2.83E-04	2.83E-04	--	--	--	--	--	0.00		
Dioxin 8D	--	--	1.95E-03	1.95E-03	--	--	--	--	--	0.00		
Ethylene Dichloride	--	3.52E-03	--	--	--	--	--	--	--	0.00	Y	0.00
Fluoranthene	--	--	1.61E+00	1.61E+00	--	--	--	--	--	3.22		
Fluorene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Formaldehyde	--	1.74E-01	7.86E+02	7.86E+02	--	--	--	--	--	1572.65	Y	1572.65
Furan 4F	--	--	1.08E-04	1.08E-04	--	--	--	--	--	0.00		
Furan 5F 12378	--	--	1.04E-04	1.04E-04	--	--	--	--	--	0.00		
Furan 5F 23478	--	--	1.51E-04	1.51E-04	--	--	--	--	--	0.00		
Furan 6F 123478	--	--	5.14E-05	5.14E-05	--	--	--	--	--	0.00		
Furan 6F 123678	--	--	5.24E-05	5.24E-05	--	--	--	--	--	0.00		
Furan 6F 123789	--	--	2.19E-04	2.19E-04	--	--	--	--	--	0.00		
Furan 6F 234678	--	--	5.88E-05	5.88E-05	--	--	--	--	--	0.00		
Furan 7F 1234678	--	--	2.46E-04	2.46E-04	--	--	--	--	--	0.00		
Furan 7F 1234789	--	--	2.50E-05	2.50E-05	--	--	--	--	--	0.00		
Furan 8F	--	--	1.76E-04	1.76E-04	--	--	--	--	--	0.00		
Hexavalent Chromium	--	1.29E-04	1.44E+00	1.44E+00	--	--	6.12E-05	--	--	2.88	Y	2.88
Hydrochloric acid	--	--	2.42E+03	2.42E+03	--	--	--	--	--	4845.12	Y	4845.12
Indeno [1,2,3-cd] pyrene	--	--	4.03E-01	4.03E-01	--	--	--	--	--	0.81		
Lead	--	3.85E-03	2.20E+00	2.20E+00	--	--	6.32E-03	--	--	4.41	Y	4.41
Manganese	--	1.36E-01	9.61E+00	9.61E+00	--	--	1.06E-01	--	--	19.46	Y	19.46
Mercury	--	2.07E-04	6.45E+00	6.45E+00	--	--	1.33E-03	--	--	12.90	Y	12.90
Methylene Chloride	--	4.94E-03	--	--	--	--	--	--	--	0.00	Y	0.00
Naphthalene	--	2.64E-02	2.41E+02	2.41E+02	--	--	--	--	--	481.85	Y	481.85
Nickel	--	8.98E-03	1.51E+00	1.51E+00	--	--	1.22E-03	--	--	3.03	Y	3.03
PAHs	--	2.71E-02	--	--	--	--	--	--	--	0.03	Y	0.03
p-Dichlorobenzene	--	5.33E-03	--	--	--	--	--	--	--	0.01	Y	0.01
Perchloroethylene	--	6.02E-03	--	--	--	--	--	--	--	0.01	Y	0.01
Phenanthrene	--	--	3.80E+00	3.80E+00	--	--	--	--	--	7.59		
Phosphorus	--	--	--	--	--	--	1.60E-01	--	--	0.16	Y	0.16
Pyrene	--	--	1.66E+00	1.66E+00	--	--	--	--	--	3.31		
Selenium	--	1.28E-02	6.38E-01	6.38E-01	--	--	3.06E-04	--	--	1.29	Y	1.29
Silver	--	--	--	--	--	--	3.06E-04	--	--	0.00		
Sulfate	--	--	--	--	--	--	1.03E+00	--	--	1.03		
Total Dioxin:4D	--	--	7.26E-03	7.26E-03	--	--	--	--	--	0.01		
Total Dioxin:5D	--	--	1.97E-03	1.97E-03	--	--	--	--	--	0.00		
Total Dioxin:6D	--	--	8.53E-04	8.53E-04	--	--	--	--	--	0.00		
Total Dioxin:7D	--	--	6.08E-04	6.08E-04	--	--	--	--	--	0.00		
Total Furan:4F	--	--	1.04E-02	1.04E-02	--	--	--	--	--	0.02		
Total Furan:5F	--	--	2.88E-03	2.88E-03	--	--	--	--	--	0.01		
Total Furan:6F	--	--	9.58E-04	9.58E-04	--	--	--	--	--	0.00		
Total Furan:7F	--	--	3.29E-04	3.29E-04	--	--	--	--	--	0.00		
Trichloroethylene	--	4.78E-03	--	--	--	--	--	--	--	0.00		
Vanadium	--	--	--	--	--	--	4.28E-03	--	--	0.00		
Vinyl Chloride	--	1.13E-02	1.82E+01	1.82E+01	--	--	--	--	--	36.50	Y	36.50
Vinylidene Chloride	--	3.52E-03	--	--	--	--	--	--	--	0.00	Y	0.00
Zinc	--	--	1.13E+01	1.13E+01	--	--	1.61E-01	--	--	22.74		
											<b>Total:</b>	<b>7039 lb/yr 3.5 tons/yr</b>



**N-8887-19-0**  
**Cooling Tower**

Per project N-1204246, proposed chemicals used in the cooling tower does not contain any HAPs.

**N-8887-21**

**Emergency Fire-Pump Engine**

<b>Substances</b>	<b>CAS#</b>	<b>*PE (lb/hr)</b>	<b>*PE (lb/yr)</b>
1,3 Butadiene	106990	4.80E-05	4.82E-03
Acetaldehyde	75070	6.58E-05	6.59E-03
Arsenic	7440382	3.84E-05	3.85E-03
Benzene	71432	2.15E-04	2.16E-02
Beryllium	7440417	5.29E-07	5.30E-05
Cadmium	7440439	1.28E-05	1.28E-03
Carbon Tetrachloride	56235	5.56E-05	5.58E-03
Chlorobenzene	108907	4.79E-05	4.80E-03
Chloroform	67663	4.62E-05	4.63E-03
Chromium	7440473	2.57E-05	2.57E-03
Ethylene Dichloride	107062	3.51E-05	3.52E-03
Formaldehyde	50000	1.74E-03	1.74E-01
Hexavalent Chromium	18540299	1.28E-06	1.29E-04
Lead	7439921	3.84E-05	3.85E-03
Manganese	7439965	1.36E-03	1.36E-01
Mercury	7439976	2.07E-06	2.07E-04
Methylene Chloride	75092	4.93E-05	4.94E-03
Naphthalene	91203	2.63E-04	2.64E-02
Nickel	7440020	8.95E-05	8.98E-03
p-Dichlorobenzene	106467	5.32E-05	5.33E-03
PAHs	1151	2.70E-04	2.71E-02
Perchloroethylene	127184	6.01E-05	6.02E-03
Selenium	7782492	1.28E-04	1.28E-02
Trichloroethylene	79016	4.77E-05	4.78E-03
Vinyl Chloride	75014	1.13E-04	1.13E-02
Vinylidene Chloride	75354	3.51E-05	3.52E-03

\*PE values are derived using the worksheet for diesel-fuel internal combustion engines available at: [https://www.valleyair.org/busind/pto/emission\\_factors/emission\\_factors\\_idx.htm](https://www.valleyair.org/busind/pto/emission_factors/emission_factors_idx.htm); Fuel use rate - 12.57 gal/hr and 1,257 gal/yr (non-emergency use)

**N-8887-22-0**  
**Walnut Shell-Fired Boiler**

Substances	CAS#	PE* (lb/hr)	PE* (lb/yr)
Acenaphthene	83329	4.80E-05	4.03E-01
Acenaphthylene	208968	3.79E-04	3.18E+00
Anthracene	120127	4.80E-05	4.03E-01
Arsenic	7440382	6.28E-05	5.28E-01
Benzene	71432	3.08E-03	2.59E+01
Benzo(a)anthracene	56553	4.80E-05	4.03E-01
Benzo(a)pyrene	50328	4.80E-05	4.03E-01
Benzo(b)fluoranthene	205992	4.80E-05	4.03E-01
Benzo[g,h,i] perylene	191242	4.80E-05	4.03E-01
Benzo[k] Fluoranthene	207089	4.80E-05	4.03E-01
Beryllium	7440417	8.64E-06	7.26E-02
Cadmium	7440439	3.55E-04	2.98E+00
Chromium	7440473	1.15E-05	9.68E-02
Chrysene	218019	4.80E-05	4.03E-01
Copper	7440508	2.46E-04	2.07E+00
Dibenz(A,H)Anthracene	53703	4.80E-05	4.03E-01
Dioxin 4D	1746016	1.78E-09	1.50E-05
Dioxin 5D 12378	40321764	4.40E-09	3.70E-05
Dioxin 6D 123478	39227286	4.88E-09	4.10E-05
Dioxin 6D 123678	57653857	5.08E-09	4.27E-05
Dioxin 6D 123789	19408743	4.60E-09	3.86E-05
Dioxin 7D	35822469	3.36E-08	2.83E-04
Dioxin 8D	3268879	2.32E-07	1.95E-03
Fluoranthene	206440	1.92E-04	1.61E+00
Fluorene	86737	4.80E-05	4.03E-01
Formaldehyde	50000	9.36E-02	7.86E+02
Furan 4F	51207319	1.28E-08	1.08E-04
Furan 5F 12378	57117416	1.24E-08	1.04E-04
Furan 5F 23478	57117314	1.79E-08	1.51E-04
Furan 6F 123478	70648269	6.12E-09	5.14E-05
Furan 6F 123678	57117449	6.24E-09	5.24E-05
Furan 6F 123789	72918219	2.60E-08	2.19E-04
Furan 6F 234678	60851345	7.00E-09	5.88E-05
Furan 7F 1234678	67562394	2.93E-08	2.46E-04
Furan 7F 1234789	55673897	2.97E-09	2.50E-05
Furan 8F	39001020	2.10E-08	1.76E-04
Hexavalent Chromium	18540299	1.71E-04	1.44E+00
Hydrochloric acid	7647010	2.88E-01	2.42E+03
Indeno [1,2,3-cd] pyrene	193395	4.80E-05	4.03E-01
Lead	7439921	2.62E-04	2.20E+00
Manganese	7439965	1.14E-03	9.61E+00
Mercury	7439976	7.68E-04	6.45E+00
Naphthalene	91203	2.87E-02	2.41E+02
Nickel	7440020	1.80E-04	1.51E+00
Phenanthrene	85018	4.52E-04	3.80E+00
Pyrene	129000	1.97E-04	1.66E+00
Selenium	7782492	7.60E-05	6.38E-01
Total Dioxin:4D	41903575	8.64E-07	7.26E-03
Total Dioxin:5D	36088229	2.34E-07	1.97E-03
Total Dioxin:6D	34465468	1.02E-07	8.53E-04
Total Dioxin:7D	37871004	7.24E-08	6.08E-04
Total Furan:4F	55722275	1.24E-06	1.04E-02
Total Furan:5F	30402154	3.43E-07	2.88E-03
Total Furan:6F	55684941	1.14E-07	9.58E-04
Total Furan:7F	38998753	3.92E-08	3.29E-04
Vinyl Chloride	75014	2.17E-03	1.82E+01
Zinc	7440666	1.34E-03	1.13E+01
*PE values are taken from HAP worksheets			

**N-8887-23-0**  
**Walnut Shell-Fired Boiler**

Substances	CAS#	PE* (lb/hr)	PE* (lb/yr)
Acenaphthene	83329	4.80E-05	4.03E-01
Acenaphthylene	208968	3.79E-04	3.18E+00
Anthracene	120127	4.80E-05	4.03E-01
Arsenic	7440382	6.28E-05	5.28E-01
Benzene	71432	3.08E-03	2.59E+01
Benzo(a)anthracene	56553	4.80E-05	4.03E-01
Benzo(a)pyrene	50328	4.80E-05	4.03E-01
Benzo(b)fluoranthene	205992	4.80E-05	4.03E-01
Benzo[g,h,i] perylene	191242	4.80E-05	4.03E-01
Benzo[k] Fluoranthene	207089	4.80E-05	4.03E-01
Beryllium	7440417	8.64E-06	7.26E-02
Cadmium	7440439	3.55E-04	2.98E+00
Chromium	7440473	1.15E-05	9.68E-02
Chrysene	218019	4.80E-05	4.03E-01
Copper	7440508	2.46E-04	2.07E+00
Dibenz(A,H)Anthracene	53703	4.80E-05	4.03E-01
Dioxin 4D	1746016	1.78E-09	1.50E-05
Dioxin 5D 12378	40321764	4.40E-09	3.70E-05
Dioxin 6D 123478	39227286	4.88E-09	4.10E-05
Dioxin 6D 123678	57653857	5.08E-09	4.27E-05
Dioxin 6D 123789	19408743	4.60E-09	3.86E-05
Dioxin 7D	35822469	3.36E-08	2.83E-04
Dioxin 8D	3268879	2.32E-07	1.95E-03
Fluoranthene	206440	1.92E-04	1.61E+00
Fluorene	86737	4.80E-05	4.03E-01
Formaldehyde	50000	9.36E-02	7.86E+02
Furan 4F	51207319	1.28E-08	1.08E-04
Furan 5F 12378	57117416	1.24E-08	1.04E-04
Furan 5F 23478	57117314	1.79E-08	1.51E-04
Furan 6F 123478	70648269	6.12E-09	5.14E-05
Furan 6F 123678	57117449	6.24E-09	5.24E-05
Furan 6F 123789	72918219	2.60E-08	2.19E-04
Furan 6F 234678	60851345	7.00E-09	5.88E-05
Furan 7F 1234678	67562394	2.93E-08	2.46E-04
Furan 7F 1234789	55673897	2.97E-09	2.50E-05
Furan 8F	39001020	2.10E-08	1.76E-04
Hexavalent Chromium	18540299	1.71E-04	1.44E+00
Hydrochloric acid	7647010	2.88E-01	2.42E+03
Indeno [1,2,3-cd] pyrene	193395	4.80E-05	4.03E-01
Lead	7439921	2.62E-04	2.20E+00
Manganese	7439965	1.14E-03	9.61E+00
Mercury	7439976	7.68E-04	6.45E+00
Naphthalene	91203	2.87E-02	2.41E+02
Nickel	7440020	1.80E-04	1.51E+00
Phenanthrene	85018	4.52E-04	3.80E+00
Pyrene	129000	1.97E-04	1.66E+00
Selenium	7782492	7.60E-05	6.38E-01
Total Dioxin:4D	41903575	8.64E-07	7.26E-03
Total Dioxin:5D	36088229	2.34E-07	1.97E-03
Total Dioxin:6D	34465468	1.02E-07	8.53E-04
Total Dioxin:7D	37871004	7.24E-08	6.08E-04
Total Furan:4F	55722275	1.24E-06	1.04E-02
Total Furan:5F	30402154	3.43E-07	2.88E-03
Total Furan:6F	55684941	1.14E-07	9.58E-04
Total Furan:7F	38998753	3.92E-08	3.29E-04
Vinyl Chloride	75014	2.17E-03	1.82E+01
Zinc	7440666	1.34E-03	1.13E+01
*PE values are taken from HAP worksheets			

**N-8887-24-0: Potato Receiving, storage and processing operations**

**N-8887-25-0: Potato drying and storage operations**

**N-8887-26-0: Dried-potato truck loadout operation**

The processes under these permits handle material (potatoes) that does not contain any HAPs.

**N-8887-27-0****Walnut shell receiving and unloading operation**

<b>Substances</b>	<b>CAS#</b>	<b>*PE (lb/hr)</b>	<b>*PE (lb/yr)</b>
Aluminum	7429905	1.15E-03	9.77E+00
Ammonia	7664417	2.38E-05	2.02E-01
Antimony	7440360	1.22E-06	1.04E-02
Arsenic	7440382	6.00E-08	5.10E-04
Barium	7440393	1.05E-05	8.93E-02
Bromine Atom	7726956	1.32E-07	1.12E-03
Cadmium	7440439	3.60E-08	3.06E-04
Chromium	7440473	1.44E-07	1.22E-03
Cobalt	7440484	9.60E-08	8.16E-04
Copper	7440508	2.03E-06	1.72E-02
Hexavalent Chromium	18540299	7.20E-09	6.12E-05
Lead	7439921	7.44E-07	6.32E-03
Manganese	7439965	1.24E-05	1.06E-01
Mercury	7439976	1.56E-07	1.33E-03
Nickel	7440020	1.44E-07	1.22E-03
Phosphorus	7723140	1.89E-05	1.60E-01
Selenium	7782492	3.60E-08	3.06E-04
Silver	7440224	3.60E-08	3.06E-04
Sulfate	9960	1.21E-04	1.03E+00
Vanadium	7440622	5.04E-07	4.28E-03
Zinc	7440666	1.90E-05	1.61E-01
*PE values are taken from HAP worksheets			

**N-8887-28-0: Trona or hydrated lime receiving and storage operation**

The processes under this permit handle material that does not contain any TACs or HAPs.

**Appendix F**  
**Quarterly Net Emissions Change**



## Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

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

$PE2_{quarterly} = PE2_{annual} \div 4 \text{ quarters/year}$

$PE1_{quarterly} = PE1_{annual} \div 4 \text{ quarters/year}$

N-8887-22-0 & '-23-0 (each)

QNEC			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	2,474.75	0	2,474.75
SO <sub>x</sub>	2,755.25	0	2,755.25
PM <sub>10</sub>	496	0	496
CO	10,006.5	0	10,006.5
VOC	507.5	0	507.5

N-8887-24-0

QNEC			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	0	0	0
PM <sub>10</sub>	3.75	0	3.75
CO	0	0	0
VOC	0	0	0

N-8887-25-0

<b>QNEC</b>			
<b>Pollutant</b>	<b>PE2 (lb/qtr)</b>	<b>PE1 (lb/qtr)</b>	<b>QNEC (lb/qtr)</b>
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	0	0	0
PM <sub>10</sub>	217.25	0	217.25
CO	0	0	0
VOC	175.00	0	175.00

N-8887-26-0

<b>QNEC</b>			
<b>Pollutant</b>	<b>PE2 (lb/qtr)</b>	<b>PE1 (lb/qtr)</b>	<b>QNEC (lb/qtr)</b>
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	0	0	0
PM <sub>10</sub>	0	0	0
CO	0	0	0
VOC	0	0	0

N-8887-27-0

<b>QNEC</b>			
<b>Pollutant</b>	<b>PE2 (lb/qtr)</b>	<b>PE1 (lb/qtr)</b>	<b>QNEC (lb/qtr)</b>
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	0	0	0
PM <sub>10</sub>	25.5	0	25.5
CO	0	0	0
VOC	0	0	0

N-8887-28-0

<b>QNEC</b>			
<b>Pollutant</b>	<b>PE2 (lb/qtr)</b>	<b>PE1 (lb/qtr)</b>	<b>QNEC (lb/qtr)</b>
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	0	0	0
PM <sub>10</sub>	11.25	0	11.25
CO	0	0	0
VOC	0	0	0