Permit-To-Construction (PTC) Modification Application

Chobani Dairy Processing Facility

Twin Falls, Idaho

Prepared for

Chobani, Inc.

November 2012

CH2MHILL

Contents

Figure 2 Site Plan

1.0 Introduction

On behalf of the Chobani Idaho, Inc. (also known as Agro Farma, Inc.), CH2M HILL has prepared this Permit-to-Construct (PTC) modification application for the Chobani dairy facility located in Twin Falls, Idaho. Chobani is requesting the consolidation of two separate air quality PTCs for the Chobani dairy processing facility and the City of Twin Falls Pre-Treatment Facility (PTF) into one permit. Currently, the City of Twin Falls is leasing a small parcel of land on the southwestern corner of the Chobani dairy facility property. Chobani is looking to expand their facility operations and will need to treat a larger volume of wastewater than initially proposed. As such, the City of Twin Falls will treat the Chobani dairy facility wastewater flows exclusively. A justification memorandum summarizing why these sources must now be considered as one facility for purposes of the minor source air permitting program is provided in Appendix A.

This PTC modification application includes a request to add the PTF emission sources to the Chobani dairy facility air permit, as well as a request to construct several new additional emission sources. The sources to be added to the Chobani dairy facility permit include a biogas candlestick flare, two diesel-fired emergency generators (350 kilowatt (kW) and 175 kW), and an 8 million British thermal units per hour (MMBtu/hour) boiler capable of combusting either biogas or natural gas.

An application fee of $1,000.00 has been included with this application submittal in accordance with IDAPA 58.01.01.226. A signed general information application form GI has also been included with this application package. Completed IDEQ application forms are included in Appendix B. Project summary tables are provided for summarizing emission estimates and modeling results in Appendices C and F; respectively, in place of DEQ forms.

An informational meeting was held at the Idaho Department of Environmental Quality state office located at 1410 North Hilton, Boise, Idaho on Monday October 22, 2012.

This PTC modification application includes a process description, plot plan, emission estimates, modeling protocol and results, and regulatory review. This application is intended to satisfy the air quality PTC requirements in accordance with IDAPA 58.01.01.200.

2.0 Process Description

The Chobani dairy facility is located at 3450 Kimberly Road East in Twin Falls, Idaho. The PTF facility is being constructed to the southwest of the Chobani dairy facility, on a parcel of the Chobani property. The area surrounding the site is primarily a rural area currently used for equipment sales, rental, and maintenance facilities and agriculture.

The Chobani facility produces yogurt. No emission unit changes are proposed for the dairy processing plant. The current Chobani dairy facility air permit includes five natural gas boilers, one anhydrous ammonia refrigeration system containing 8 chillers, 8 one cell cooling towers, three natural gas make-up air unit (MAU) heaters, eight natural gas roof top unit (RTU) heaters, and eight natural gas infrared heaters (IRH).

The PTF will treat the effluent waste water from the dairy processing plant; exclusively. The emission units for PTF operation include a dual gas fired boiler, candlestick flare, and two emergency generators.

Biogas is generated in a USAB (anaerobic) reactor during the waste water pre-treatment process. An 8 MMBTU/hour, Calorix boiler will be used to heat effluent wastewater to ensure that the appropriate process temperature is maintained for pre-treatment. The Calorix boiler will combust biogas generated from the USAB reactor as the primary fuel with natural gas as a secondary fuel. Any excess biogas produced will be distributed to the candlestick flare and burned off. The Calorix boiler and flare will not operate simultaneously.

A 175 kW emergency diesel generator will be used to power the PTF in case of an electric power failure. A 350 kW emergency diesel generator will be used to power the Calorix boiler as well as for future demand to ensure that the effluent wastewater is heated in case of an electric power failure.

CH2MHILL TRANSMITTAL

To: Bill Rogers
1410 N. Hilton
Boise, ID 83706

From: Rick McCormick
322 East Front St.
Suite 200
Boise, ID 83702

Attn: Valerie Waterland
EHS Manager

Date: November 29, 2012

Re: Air Quality PTC Mod Application

We Are Sending You:

Method of shipment: Fed-Ex

☑ Attached

Under separate cover via

Shop Drawings ☑ Documents Tracings

Prints Specifications Catalogs

Copy of letter Other:

Quantity	Description
2	Air Quality PTC Application

If the material received is not as listed, please notify us at once.

Remarks: Copy included.

Receipt

Print this page or check your email for a receipt.

Payment Complete

Idaho.gov State of ID will appear on your statement for this transaction. Thank you for your business.

Order Number: PP3ID1209135SID5534594-1209135
Order Date: Thu Nov 29 14:14:54 MST 2012
Payment Method: Visa xxxxxxxxxxxx4280
Cost: $1,030.00

Order

Item/Service	Qty	Price	Total
PTC Application Fee	1	$1,000.00	$1,000.00

Subtotal	$1,000.00
Sales Tax	$0.00
Shipping	$0.00
Purchased through Idaho.gov Price	$1,030.00

Contact information

Bill To: Valerie Waterland
3450 Kimberly Road E.
Twin Falls, ID 83301
Phone:
Email: valerie.waterland@chobani.com

Billing questions

Contact Idaho.gov by phone 208-332-0102 or toll-free at 1-877-443-3468.

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Table 1 summarizes the manufacture, model, rated capacity, and fuel type for the emission units currently listed in the current PTC for the Chobani dairy facility, as well as for the PTF sources proposed to be added to the Chobani air permit in this PTC modification application.

TABLE 1
EMISSION UNIT LIST

Emission Unit	Stack ID	Manufacturer	Model	Rated Capacity	Fuel Type
Chobani Dairy Facility (As Stated in Current PTC)					
Natural Gas Boiler 1	Boiler1	Cleaver Brooks	CBLE-700-800	3.2659 MMBTU/Hour	Natural Gas
Natural Gas Boiler 2	Boiler2	Cleaver Brooks	CBLE-700-800	3.2659 MMBTU/Hour	Natural Gas
Natural Gas Boiler 3	Boiler3	Cleaver Brooks	CBLE-700-800	3.2659 MMBTU/Hour	Natural Gas
Natural Gas Boiler 4	Boiler4	Cleaver Brooks	CBLE-700-800	3.2659 MMBTU/Hour	Natural Gas
Natural Gas Boiler 5	Boiler5	Cleaver Brooks	CBLE-700-800	3.2659 MMBTU/Hour	Natural Gas
Boiler Room MAU (50,000 cfm, direct fired)	BRMAU1	Rupp Air	RAM 225	3,586,957 BTU/Hour	Natural Gas
Main Office RTU 1 (indirect fired)	RTU1	Carrier	48A5,T,030	525,000 BTU/Hour	Natural Gas
Main Office RTU 2 (indirect fired)	RTU2	Carrier	48A5,T,030	525,000 BTU/Hour	Natural Gas
Main Office RTU 3 (indirect fired)	RTU3	Carrier	48A5,T,030	525,000 BTU/Hour	Natural Gas
Main Office RTU 4 (indirect fired)	RTU4	Carrier	48A5,T,030	525,000 BTU/Hour	Natural Gas
Main Office RTU 5 (indirect fired)	RTU5	Carrier	48A5,T,030	525,000 BTU/Hour	Natural Gas
Main Office RTU 6 (indirect fired)	RTU6	Carrier	48A5,T,030	525,000 BTU/Hour	Natural Gas
Lab MAU (6,000 cfm, indirect fired)	LABMAU	Aaron	RN-050	810,000 BTU/Hour	Natural Gas
Meeting/RR/Plant Offices/Maintenance Office RTU (indirect fired)	PLANT	Carrier	48A5,S,020	350,000 BTU/Hour	Natural Gas
Maintenance/Parts/Fab RTU (indirect fired)	MAINT	Carrier	48A5,S,060	1,164,000 BTU/Hour	Natural Gas
Battery MAU (42,000 cfm, direct fired)	BATTMAU	Rupp Air	RAM 222	3,586,957 BTU/Hour	Natural Gas
Receiving Bay IRH 1	IRH1	Reznor	VR-200-60	200,000 BTU/Hour	Natural Gas
Receiving Bay IRH 2	IRH2	Reznor	VR-200-60	200,000 BTU/Hour	Natural Gas
Receiving Bay IRH 3	IRH3	Reznor	VR-200-60	200,000 BTU/Hour	Natural Gas
Receiving Bay IRH 4	IRH4	Reznor	VR-200-60	200,000 BTU/Hour	Natural Gas
Receiving Bay IRH 5	IRH5	Reznor	VR-200-60	200,000 BTU/Hour	Natural Gas
Receiving Bay IRH 6	IRH6	Reznor	VR-200-60	200,000 BTU/Hour	Natural Gas

TABLE 1
EMISSION UNIT LIST

Emission Unit	Stack ID	Manufacturer	Model	Rated Capacity	Fuel Type
Receiving Bay IRH 7	IRH7	Reznor	VR-200-60	200,000 BTU/Hour	Natural Gas
Receiving Bay IRH 8	IRH8	Reznor	VR-200-60	200,000 BTU/Hour	Natural Gas
8 One Cell Cooling Towers	CT01 through CT-08			34,140 gpm Flow Rate (2,845 gpm per tower) 1500 mg/L or ppmw TDS 0.00005 gal drift/gal flow	Not applicable
Anhydrous Ammonia Refrigeration System (8 Chillers)	REFRIG			14,850 lb (1,350 lb each Chiller)	Not applicable
PTF (New Emission Sources)					
Dual Gas Fired Boiler	BOILER6	Calorix		8 MMBTU/Hour	Biogas/Natural Gas
Flare	FLARE	Varec		3.52 MMBTU/hour	Biogas
Emergency Generator	GEN1	Cummins	QSB7-G5-NR3	324 HP (175 KW Stand-by)	Diesel
Emergency Generator	GEN2	Caterpillar	C15 ATAAC	470 HP (350 KW)	Diesel

Abbreviations:

MMBTU/Hour	million British thermal units per hour
BTU/Hour	British thermal units per hour
Cfm	cubic feet per minute
gpm	gallons per minute
HP	horsepower
mg/L	milligrams per liter
KW	kilowatt
ppmw	parts per million
gal	gallon
lb	pound
scf	standard cubic feet
TDS	total dissolved solids

3.0 Scaled Plot Plan

The project boundaries and scaled facility layout including all of the emission units are shown in Figure 1. The emission units associated with the PTF are provided on a larger scale in Figure 2.

4.0 Potential to Emit Emission Estimates

IDAPA 58.01.01 defines Potential to Emit (PTE) as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Chobani is not proposing any emission controls for any of the emitting sources.

Using this definition of PTE, an emissions inventory was developed for Chobani dairy facility as currently permitted (pre-project or baseline emission inventory) and after the proposed modifications (post project emission inventory). The following sections provide a summary of the basis of the PTE emission estimates, as well as the pre-project (baseline)emission inventory, post project emission inventory, and the change in the PTE as a result of the project.

4.1 Pre-Project Potential to Emit

The pre-project PTE is used to establish the change in emissions at a facility as a result of a project. The pre-project PTE is equal to the PTE for the Chobani dairy facility, as currently permitted.

The annual emission rates for five Cleaver Brooks boilers, three MAU heaters, eight RTU heaters, and eight IRHs currently permitted under the Chobani dairy facility PTC are based on 8,760 hours of operation combusting natural gas and the rated capacities summarized in Table 2. Criteria pollutant, hazardous air pollutant (HAP), and toxic air pollutant (TAP) emission estimates for the Cleaver Brook natural gas boilers are calculated based on emission factors provided by available manufacturer data and from the U.S. Environmental Protection Agency (EPA) *Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1(AP-42): Chapter 1 External Combustion Sources, Section 1.4 Natural Gas.* Emission estimates for criteria pollutants, HAPs, and TAPs for the heaters are also calculated using emission factors stated in *AP-42 Chapter 1 External Combustion Sources, Section 1.4 Natural* Gas. The Tier 1 Methodology and equation C-8 outlined in 40 Code of Federal Regulations (CFR) Part 98 Supbart C is used to calculate the greenhouse gas (GHG)pollutants of carbon dioxide (CO_2) nitrogen oxide (N_2O), and methane (CH_4). In addition, Carbon dioxide equivalents (CO2e) were calculated as described in 40 CFR Part 98.

Particulate emissions from the one cell cooling tower currently permitted under the Chobani dairy facility PTC are based on a total water flow rate of 34,140 gpm (2,845 gpm per each tower), a TDS blowdown concentration of 1,500 mg/L or ppmw, and a control efficiency of the drift eliminators of 0.00005 gal drift/gal flow, as provided by Shambaugh & Son on December 19, 2011. Particulate emission estimates for the cooling towers are calculated using the methodology summarized in *AP-42 Chapter 13 Miscellaneous Sources, Section 13.4 Wet Cooling Towers.* The cooling tower particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns (PM_{10}) emissions are calculated using on a 0.300 fraction of flow producing PM_{10} drift, as stated in the J. Reisman and G. Frisbee paper *Calculating Realistic PM_{10} Emissions From Cooling Towers,* presented at the Air and Waste Management Association (AWMA) annual meeting in 2001. It was assumed that particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns ($PM_{2.5}$) emissions are equal to PM_{10} emissions.

Under normal operations, the anhydrous ammonia refrigeration system, currently permitted under the Chobaini dairy facility PTC, will not release emissions to the ambient air. In the event of a system backup, an instantaneous release of ammonia would occur from a pressure release valve. The estimated ammonia release is based on 10,800 lb (1,350 lb per chiller) of anhydrous ammonia, the maximum capacity of the refrigeration system as provided by Shambaugh & Son on December 19, 2011.

Table 2 provides the pre-project potential to emit summary (i.e., the PTE for the Chobani dairy facility, as currently permitted).

TABLE 2
PRE-PROJECT FACILITY BASELINE EMISSIONS SUMMARY

Emissions Unit Name	Stack ID	PM_{10}		$PM_{2.5}$		NOx		SO_2		CO		VOC		Lead		HAPs		GHGs - CO2e	
		lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	short ton/year
Cleaver Brooks CBLE-700-800 NG Boiler 1	BOILER1	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 2	BOILER2	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 3	BOILER3	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 4	BOILER4	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 5	BOILER5	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired)	BRMAU 1	0.03	0.13	0.03	0.13	0.35	1.53	0.002	0.01	0.30	1.31	0.02	0.09	1.76E-06	7.71E-06	0.01	0.03	423.01	1,852.79
Lab MAU - Aaron RN-050 (6,000 cfm, indirect fired RTU)	LABMAU	0.01	0.04	0.01	0.04	0.08	0.35	0.0005	0.002	0.07	0.31	0.004	0.02	3.97E-07	1.74E-06	1.51E-03	0.01	95.52	418.36
Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired)	BATTMAU	0.03	0.13	0.03	0.13	0.35	1.53	0.002	0.01	0.30	1.31	0.02	0.09	1.76E-06	7.71E-06	0.01	0.03	423.01	1,852.79
Main Office RTU 1 - Carrier 48A5,T,030 (indirect fired)	RTU1	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 2 - Carrier 48A5,T,030 (indirect fired)	RTU2	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 3 - Carrier 48A5,T,030 (indirect fired)	RTU3	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 4 - Carrier 48A5,T,030 (indirect fired)	RTU4	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU5	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU6	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	1.72E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Meeting/RR/Plant Offices/Maintenance Office RTU - Carrier 48A5,S,020 (indirect fired)	PLANT	0.003	0.01	0.003	0.01	0.03	0.13	0.0002	0.0009	0.03	0.13	0.002	0.01	1.72E-07	7.53E-07	6.47E-04	2.83E-03	41.26	180.70
Maintenance/Parts/Fab RTU - Carrier 48A5,S,060 (indirect fired)	MAINT	0.01	0.04	0.01	0.04	0.11	0.48	0.0007	0.003	0.10	0.44	0.01	0.04	5.71E-07	2.50E-06	2.15E-03	0.01	137.24	601.10
Reznor VR-2---60 Receiving Bay IRH 1	IRH1	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 2	IRH2	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 3	IRH3	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 4	IRH4	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 5	IRH5	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 6	IRH6	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 7	IRH7	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 8	IRH8	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
8 One Cell Cooling Towers	CT01-CT8	0.25	1.10	0.25	1.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anhydrous Ammonia Refrigeration System (8 Chillers)	REFRIG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Baseline Totals		**2.02**	**8.90**	**2.02**	**8.90**	**12.98**	**56.86**	**0.11**	**0.49**	**7.10**	**31.15**	**0.73**	**3.20**	**8.69E-05**	**3.81E-04**	**0.33**	**1.42**	**20,936.24**	**91,700.80**

Average emission rates in lb/hour is the daily average, based on the proposed daily operating schedule and daily limits.
Average emission rates in ton/year is an annual average, based o the proposed annual operating schedule and annual limits.

4.2 Post Project Potential to Emit

The post project PTE is used to establish the change in emissions at a facility and to determine the facility's classification as a result of the project. Post project PTE includes all permit limits resulting from the project, including the Chobani dairy facility PTE as currently permitted and the PTF proposed sources. The basis of the emission estimates for the PTF proposed sources are summarized below.

The Calorix dual gas fired boiler to be used to heat effluent wastewater will be operated on both biogas and natural gas and has a rated capacity of 8 MMBTU/hour. As the Calorix boiler can only operate using one fuel type at a time, the PTE for the boiler assumes the worst case emissions for each pollutant either from the combustion of digester gas or natural gas, whichever is higher for that pollutant. Emission estimates for the Calorix boiler using digester gas assumes a maximum rate biogas generation rate of 140,688 scf/day and a high heating value of 600 Btu/scf, equating to a capacity of 3.54 MMBTU/hour. The annual PTE assumes 8,760 hours/year operation. The PTE calculations are based on emission factors provided by the U.S. Environmental Protection Agency AP-42 and the South Coast Air Quality Management District. In addition, the Tier 1 Methodology and equation C-8 outlined in 40 CFR Part 98 Subpart C was used to calculate the GHG pollutants of CO_2, N_2O, and CH_4. CO2e was calculated as described in 40 CFR 98 Subpart C.

The Varec biogas candlestick flare has been designed to handle an estimated rated heat input of 3.52 MMBtu/hour operating 8,760 hour/year. Emission estimates for the flare are based on a maximum rate biogas generation rate of 140,688 scf/day. The PTE calculations are based on emission factors provided by available manufacturer data, U.S. Environmental Protection Agency AP-42, and South Coast Air Quality Management District. In addition, the Tier 1 Methodology and equation C-8 outlined in 40 CFR Part 98 Subpart C was used to calculate the GHG pollutants of CO_2, N_2O, and CH_4. CO2e was calculated as described in 40 CFR 98 Subpart C.

The Cummins emergency diesel generator to be used as emergency back-up power for the PTF is rated at 175 kW in standby mode (324 hp per *EPA Tier 3 Exhaust Compliance Statement*). The Caterpillar emergency generator that will be used to provide emergency power to heat effluent wastewater is rated at 350 kW (470 HP). The PTE for each of the emergency generators are based on emission factors provided by available manufacturer data and the U.S. Environmental Protection Agency AP-42. In addition, the Tier 1 Methodology and equation C-8 outlined in 40 CFR Part 98 Subpart C was used to calculate GHG pollutants of CO_2, N_2O, CH_4, and CO2e were calculated as described in 40 CFR 98 Subpart C. The uncontrolled PTE for each emergency generator is based on 500 hours per year. However, emergency generator maintenance and testing operation will be limited to 100 hours per year.

Note that the SO_2 emissions for the flare and Calirex boiler (Boiler 6) are based on the maximum concentration of 4,000 ppm. Emission calculations are included in Appendix C. Manufacturer data for the Calorix dual gas fired boiler, the Varec flare, and the emergency generators are provided in Appendix D.

The post project facility-wide PTE summary, which includes the dairy facility and the PTF proposed sources, is presented in Table 3.

TABLE 3
POST PROJECT PTE FOR REGULATED AIR POLLUTANTS

Emissions Unit Name	Stack ID	PM_{10}		$PM_{2.5}$		NOx		SO_2		CO		VOC		Lead		HAPs		GHGs - CO2e	
		lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	Lb/hour	Short ton/year
Cleaver Brooks CBLE-700-800 NG Boiler 1	BOILER1	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 2	BOILER2	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 3	BOILER3	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 4	BOILER4	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 5	BOILER5	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Calorix Boiler	BOILER6	0.06	0.30	0.06	0.30	0.39	1.70	3.95	17.30	0.66	2.90	0.04	0.20	3.92E-06	1.72E-05	0.01	0.06	938.17	4,109.19
Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired)	BRMAU 1	0.03	0.13	0.03	0.13	0.35	1.53	0.002	0.01	0.30	1.31	0.02	0.09	1.76E-06	7.71E-06	0.01	0.03	423.01	1,852.79
Lab MAU - Aaon RN-050 (6,000 cfm, indirect fired RTU)	LABMAU	0.01	0.04	0.01	0.04	0.08	0.35	0.0005	0.002	0.07	0.31	0.004	0.02	3.97E-07	1.74E-06	1.51E-03	0.01	95.52	418.36
Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired)	BATTMAU	0.03	0.13	0.03	0.13	0.35	1.53	0.002	0.01	0.30	1.31	0.02	0.09	1.76E-06	7.71E-06	0.01	0.03	423.01	1,852.79
Main Office RTU 1 - Carrier 48A5,T,030 (indirect fired)	RTU1	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 2 - Carrier 48A5,T,030 (indirect fired)	RTU2	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 3 - Carrier 48A5,T,030 (indirect fired)	RTU3	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 4 - Carrier 48A5,T,030 (indirect fired)	RTU4	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU5	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU6	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	1.72E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Meeting/RR/Plant Offices/Maintenance Office RTU - Carrier 48A5,S,020 (indirect fired)	PLANT	0.003	0.01	0.003	0.01	0.03	0.13	0.0002	0.0009	0.03	0.13	0.002	0.01	1.72E-07	7.53E-07	6.47E-04	2.83E-03	41.26	180.70
Mantenance/Parts/Fab RTU - Carrier 48A5,S,060 (indirect fired)	MAINT	0.01	0.04	0.01	0.04	0.11	0.48	0.0007	0.003	0.10	0.44	0.01	0.04	5.71E-07	2.50E-06	2.15E-03	0.01	137.24	601.10
Reznor VR-2---60 Receiving Bay IRH 1	IRH1	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 2	IRH2	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 3	IRH3	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 4	IRH4	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 5	IRH5	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 6	IRH6	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 7	IRH7	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25

TABLE 3
POST PROJECT PTE FOR REGULATED AIR POLLUTANTS

Emissions Unit Name	Stack ID	PM_{10}		$PM_{2.5}$		NOx		SO_2		CO		VOC		Lead		HAPs		GHGs - CO2e	
		lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	Lb/hour	Short ton/year
Reznor VR-2---60 Receiving Bay IRH 8	IRH8	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
8 One Cell Cooling Towers	CT01-CT8	0.25	1.10	0.25	1.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anhydrous Ammonia Refrigeration System (8 Chillers)	REFRIG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flare	FLARE	0.04	0.18	0.04	0.18	0.24	1.05	3.38	14.80	1.30	5.69	0.21	0.92			0.27	0.03	575.97	2,522.73
Emergency Generator 1	GEN1	0.11	0.01	2.14	0.11	2.14	0.11	0.01	5.00E-04	1.86	0.09	0.04	0.002	--	--	0.01	1.00E-03	36.61	160.33
Emergency Generator 2	GEN2	0.05	0.003	0.05	0.003	3.46	0.17	0.006	2.80E-04	0.52	0.03	0.04	0.002	--	--	1.50E-02	7.44E-04	37.39	163.77
Total		**2.28**	**9.39**	**4.31**	**9.49**	**19.21**	**59.89**	**7.45**	**32.59**	**11.44**	**39.86**	**1.06**	**4.32**	**9.08E-05**	**3.98E-04**	**0.64**	**1.51**	**22,524.38**	**98,656.82**

Average emission rates in lb/hour is the daily average, based on the proposed daily operating schedule and daily limits.
Average emission rates in ton/year is an annual average, based o the proposed annual operating schedule and annual limits.

4.3 Change in Potential to Emit

The change in facility-wide PTE is used in the modeling analysis and to determine the processing fee per IDAP 58.01.01.225. Table 4 presents the facility wide change in PTE for criteria pollutants and CO2e.

TABLE 4
CHANGES IN PTE FOR REGULATED POLLUTANTS

Source	PM_{10}		$PM_{2.5}$		NOx		SO_2		CO		VOC		CO2e	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Pre-Project Facility Total	2.02	8.90	2.02	8.90	12.98	56.86	0.11	0.49	7.10	31.15	0.73	3.20	20,936.24	91,700.80
Post Project Totals	2.28	9.39	4.31	9.49	19.21	59.89	7.45	32.59	11.44	39.86	1.06	4.32	22,524.38	98,656.82
Changes to PTE	**0.26**	**0.49**	**2.29**	**0.59**	**6.23**	**3.03**	**7.34**	**32.10**	**4.34**	**8.71**	**0.33**	**1.12**	**1,588.14**	**6,956.02**

4.4 Non-Carcinogenic Toxic Air Pollutants

The pre- and post project non-carcinogenic toxic air pollutant (TAP) PTEs, as well as the change in non-carcinogenic TAP emissions are provided in Table 5.

TABLE 5
PRE- AND POST PROJECT PTE FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24 Hour Average Emission Rates (lb/hour)	Post Project 24 Hour Average Emission Rates (lb/hour)	Change in 24 Hour Average Emission Rates (lb/hour)	Screening Level (lb/hour)	Exceeds Screening Level (Y/N)
Ammonia	0.00E+00	4.00E-02	4.00E-02	1.2	No
Acrolein	0.00E+00	7.33E-04	7.33E-04	0.017	No
Pentane	4.50E-01	6.16E-04	-4.49E-01	1.18E+02	No
Hexane	2.68E-01	3.26E-01	5.80E-02	1.20E+01	No
Hydrogen Sulfide	0.00E+00	2.00E-01	2.00E-01	9.33E-01	No
Toluene	5.90E-04	3.86E-03	3.27E-03	2.50E+01	No
Cobalt	1.45E-05	1.52E-05	7.00E-07	3.30E-03	No
Manganese	6.57E-05	6.87E-05	3.00E-06	6.70E-02	No
Molybdenum	1.90E-04	1.98E-04	8.00E-06	3.33E-01	No
Selenium	4.14E-06	4.33E-06	1.90E-07	1.30E-02	No
Vanadium	3.97E-04	4.15E-04	1.80E-05	3.00E-03	No
Xylenes	0.00E+00	2.26E-03	2.26E-03	2.90E+01	No
Zinc	5.00E-03	5.23E-03	2.30E-04	3.33E-01	No
Barium	7.60E-04	7.94E-04	3.40E-05	3.30E-02	No
Copper	1.47E-04	1.53E-04	6.00E-06	1.30E-02	No

No non-carcinogenic TAP post project PTE exceeds its associated non-carcinogenic TAP screening EL levels identified in IDAPA 58.01.01.585. Therefore, no modeling is required for any non-carcinogenic TAP.

4.5 Carcinogenic Toxic Air Pollutant Emissions

The pre- and post project carcinogenic toxic air pollutant (TAP) PTEs, as well as the change in carcinogenic TAP emissions are provided in Table 6.

TABLE 6
PRE- AND POST PROJECT PTE FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emission Rates (lb/hour)	Post Project Annual Average Emission Rates (lb/hour)	Change in Annual Average Emission Rates (lb/hour)	Screening Level	Exceeds Screening Level (Y/N)
Acetaldehyde	0.00E+00	6.08E-03	6.08E-03	3.00E-03	Yes
Benzene	3.64E-04	8.74E-03	8.38E-03	8.00E-04	Yes
1,3-Butadiene	0.00E+00	3.10E-04	3.10E-04	2.40E-05	Yes
3-Methylchloranthrene	3.12E-07	3.26E-07	1.40E-08	2.50E-06	No
Benzo(a)pyrene	2.08E-07	2.17E-07	9.00E-09	2.00E-06	No
Formaldehyde	1.30E-02	2.98E-02	1.68E-02	5.10E-04	Yes
POM (7-PAH)	1.99E-06	2.08E-06	9.00E-08	2.00E-06	Yes
PAH	0.00E+00	1.12E-04	1.12E-04	9.10E-05	Yes
Arsenic	3.46E-05	3.62E-05	1.60E-06	1.50E-06	Yes
Nickel	3.64E-04	3.80E-04	1.60E-05	2.75E-05	Yes
Beryllium	2.08E-06	2.17E-06	9.00E-08	2.80E-05	No
Cadmium	1.90E-04	1.99E-04	9.00E-06	3.70E-06	Yes
Chromium	2.42E-04	2.53E-04	1.10E-05	3.30E-02	No
Naphthalene	1.06E-04	1.49E-04	4.30E-05	9.10E-05	Yes

Polycyclic Organic Matter (POM) is considered as one TAP comprised of benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

Several of the post project PTES for carcinogenic TAPs were exceeded. The TAP emissions are conservative estimates of emission from the facility's combustion sources and not from the production process. Therefore, modeling is required for acetaldehyde, benzene, 1,3-butadiene, formaldehyde, POM (7-PAH), PAH, arsenic, nickel, cadmium, and naphthalene because the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

4.6 Post Project HAP Emissions

Table 7 presents the post project PTE for hazardous air pollutants (HAPs) from all emission units at the facility.

TABLE 7
POST PROJECT PTE FOR HAZARDOUS AIR POLLUTANTS SUMMARY

HAP Pollutants	CAS No.	PTE (ton/year)
Benzene	71-43-2	6.23E-03
1,3-Butadiene	106-99-0	1.55E-05
3-Methylchloranthrene	56-49-5	1.43E-06
Benzo(a)pyrene*	50-32-8	1.03E-06
Formaldehyde	50-00-0	0.09
Hexane	110-54-3	1.43

TABLE 7
POST PROJECT PTE FOR HAZARDOUS AIR POLLUTANTS SUMMARY

HAP Pollutants	CAS No.	PTE (ton/year)
Naphthalene	91-20-3	4.87E-04
Toluene	108-88-3	2.87E-03
2-Methylnapthalene	97-57-6	1.83E-05
7, 12 - Dimethylbenz(a)anthracene		1.22E-05
Acenaphthene	83-32-9	1.37E-06
Acenaphyhylene	203-96-8	1.37E-06
Acetaldehyde	75-07-0	3.05E-04
Acrolein	107-02-8	3.67E-05
Anthracene	120-12-7	1.83E-06
Dichlorobenzene	25321-22-6	9.13E-04
Flouranthene	206-44-0	2.28E-06
Fluorene	86-73-7	2.13E-06
Phenanthrene	85-01-8	1.29E-05
Xylenes	1330-20-7	1.13E-04
Benzo(a)anthracene*	56-55-3	2.10E-06
Benzo(b)fluoranthene*	205-82-3	1.47E-06
Benzo(g,h,i)perylene	191-24-2	1.11E-06
Benzo(k)fluoranthene*	205-82-3	1.49E-06
Chrysene*	218-01-9	1.57E-06
Dibenzo(a,h)anthracene*	53-70-3	1.19E-06
Indeno(1,2,3-cd)pyrene*	193-39-5	1.58E-06
Mercury	7439-97-6	2.07E-04
Arsenic	7440-38-2	1.59E-04
Nickel	7440-02-0	1.67E-03
Beryllium	7440-41-7	9.54E-06
Cadmium	7440-43-9	8.75E-04
Chromium	7440-47-3	1.11E-03
Cobalt	7440-48-4	6.70E-05
Manganese	7439-96-5	3.02E-04
Molybdenum	7439-98-7	8.75E-04
Selenium	7782-49-2	1.91E-05
Total		**1.54**

As shown by Table 7, the Chobani facility will remain a minor source of HAPs post project, as no single HAP PTE exceeds 10 ton/year and the combined total facility HAPPTE = is less than 25 tons/year.

5.0 Facility Classification

The Chobani facility will remain as a minor source facility and will not become a major facility, as defined in IDAPA 58.01.01.008.10, with the addition of the PTF proposed sources. In addition, the proposed modifications will not change the status of the Chobani facility to a designated facility as defined in IDAPA 58.01.01.006.26.

The primary Standard Industrial Classification (SIC) code for the facility is 2026, *Fluid Milk (Except Ultra High Temperature)*. Even with the addition of the PTF proposed sources, the facility will continue to emit less than 100 tons per year of any regulated pollutant and less than 100,000 tons per year of CO2e. The site will remain a minor source for HAPs with total potential aggregate HAP emissions of less than 25 tons per year and emissions of any single HAP of less than 10 tons per year.

The Chobani facility is located in the city of Twin Falls, Twin Falls County, Idaho. Twin Falls County is located in an attainment area for CO, PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, and Pb. There are no Class I areas within 10 kilometers of the facility

6.0 Ambient Impact Analysis

An air dispersion modeling protocol was prepared by CH2M HILL and submitted to IDEQ in October 2012. The source parameters and modeling assumptions were identified within the modeling protocol. The protocol was approved via e-mail by IDEQ on November 1, 2012. The air dispersion modeling protocol and IDEQ approval are included in Appendix E.

Dispersion modeling was performed using 29 individual sources which included the boilers, building heaters, cooling towers, flare, and emergency generators. Emissions from the anhydrous ammonia refrigeration system were not included for modeling, as under normal operations, the system will not release emissions to the ambient air.

Six boiler stacks, three make up air unit, eight rooftop heaters, eight cooling tower cells, one flare stack and two emergency diesel generator stacks will be represented as point sources. Average flow rates and temperatures provided by Cleaver Brooks (manufacturer) were used for the natural gas boilers. The dual gas boiler stack will consist of vertical piping (not a typical boiler stack) and will not include a rain cap. RTUs were modeled with vertical stack releases and MAUs were modeled with horizontal stack releases. Manufacturer data for RTU and MAU exhaust temperature and exhaust flow were not available upon contacting manufacturers. Therefore, CH2M HILL used best engineering judgment to estimate these parameters based on similar type units.

Shambaugh & Son provided the cooling tower information as well as the stack height and stack diameter for all the equipment.

For the flare, the SCREEN3 User's Guide (EPA, 1995) was used to calculate the equivalent stack diameter and height. Additionally, the SCREEN3 default parameters for the flare buoyancy calculation were used for stack temperature of 1273 Kelvin (1832 Fahrenheit) and velocity of 20 m/s.

Flare Equivalent Diameter and Stack Height calculations

The equivalent stack diameter uses the net heat release.

$$d = 9.88 \times 10^{-4} (q_n)^{½}$$

The net heat release uses the heat release of the biogas from the flare

$$q_n = (0.45)\, q$$

q = gross heat release from the flare (cal/s)

qn = net heat release from the flare (cal/s)

q= Max bio gas production (278,400 scf/day) x Fuel heat value (600 BTU/scf)

= [167,040,000 BTU/day x 252 cal/BTU] / [24*3600 seconds/ day]

= 487,200 cal/s

q_n = 0.45 *487,200 cal/s

= 219,240 cal/s

Now that the value for the new heat release of the biogas is determined, the equivalent diameter is

$$d = 9.88 \times 10^{-4} (219{,}240 \text{ cal/s})^{½}$$

= 0.463 m

The physical stack height of the flare is adjusted in the EPA method by adding the length of the flame to the height of the top of the flare structure using the formula:

$$H_a = H_s + [(4.56 \times 10^{-3})(q^{0.478})]$$

H_a = Adjusted flare height (m)

H_s = Physical flare height (m)

q= gross heat release (cal/s) input by user

$$H_a = 4.88 \text{ m} + [(4.56 \times 10^{-3})(487{,}200 \text{ cal/s}^{0.478})]$$

= 7.27 m

The following modeling settings were applied for the modeling analyses:

- Boiler #6 and flare will not operate simulataneously . There is not sufficient biogas produced to account for this scenario.
- Emergency generators #1 and #2 will not be tested simultaneously.
- Emergency generators will be tested between 9 AM and 12PM.
- Hourly ambient background NO_2 concentrations were included in the model for 1-hr NO_2 NAAQ modeling.
- PVMRM method was used for 1-hr NO_2 and hourly ozone concentration.
- In stack NO_2 to NO_x ratio was set ot 0.5, and NO_2 equilibrium value was set to 0.9 when using PVMRM.
- NAAQS modeling for 1-hr NO_2 and 1-hr SO_2 were conducted for receptors greater than SILs.

Point source parameters are provided in Table 8.

TABLE 8
POINT SOURCE STACK PARAMETERS

Source Type	Number of Sources	Stack Height (meters)	Temperature (Kelvin)	Exit Velocity (meter/second)	Stack Diameter (meters)
Natural Gas Boilers 1 to 5 Stacks	5	15.85	472	18.86	0.61
Boiler 6 Stack (NEW)	1	9	323.2	11.74[a]	0.45
Makeup Air Units (horizontal discharge)	3	14.63	313	15.24	0.5 to 1.27
Rooftop Heaters	8	14.63	313	15.24	0.5
Cooling Tower Cells	8	23.47	300	11.43	3.96
Emergency Generator 1 (PTF)	1	3.05	679	47.3[b]	0.20
Emergency Generator 2 (NEW)	1	3.05	689	121.6[b]	0.20
Flare (PTF)	1	7.26	1273	20.00	0.46

[a] Velocity based on calculated flow rate provided by boiler manufacturer (OVIVO/GWE) –Appendix D.
[b] Velocity based on flow rate correction of 8,358 acfm –Appendix D.

The facility includes eight Receiving bay infra red heaters. These sources will be represented as volume sources using the procedures outlined in the AERMOD users guide for determining release parameters. The release height is the height of the building on which the source is located. The initial lateral dimension for a single volume source is the length of side divided by 4.3. The initial vertical dimension for an elevated source on a building is the building height divided by 2.15. The release parameters for each source type are shown in Table 9.

TABLE 9
VOLUME SOURCE RELEASE PARAMETERS

Source Type	Number of Sources	Release Height[a] (meters)	Initial Horizontal Dimension[b] (meters)	Initial Vertical Dimension[c] (meters)
Receiving bay infra red heater	8	8.53	0.024	3.97

[a] Release height based on building height of 8.53 meters
[b] Initial horizontal dimension based on 4-inch opening divided by 4.3
[c] Initial vertical dimension based on building height of 8.53 meters divided by 2.15

The ambient air boundary was established using a combination of fencing and posting of no trespassing signs. Chobani will operate a café and store front in the north of the property. The cafe and the production facility's primary parking lot is intended for use by Chobani employees and other people accessing the Chobani facility in conducting business with the facility (equipment vendors and maintenance staff, clients, etc.). As such, the immediate area around the Chobani Café (store front) was determined to be ambient air because it will be open to the public. In addition, there is a canal that runs through the northeastern portion of the facility property. Based on an agreement with Chobani, Twin Falls Canal Company is responsible for maintenance of the canal. As such, in addition to Chobani's property boundary, the ambient air boundary will also be assumed to exist along the canal banks in the northeast section of the property and the access road into the "Chobani café" and the café itself (see Figure 1).

VOC emissions were not modeled because VOC is regulated as a precursor to ozone and there is no ambient standard for VOC. In addition modeling for CO (1-hour and 8-hour), lead, $PM_{2.5}$ (annual), and PM_{10} (24-hour) were not performed as the total facility emission rate was determined to be below IDEQ Modeling thresholds for this pollutant. Modeling was performed for those TAPs whose emission estimate is greater than the EL. A table

showing TAPs with emissions above the EL are included in Appendix C. However, ammonia from the anhydrous ammonia refrigeration systems was not modeled as under normal operations will not release emissions to the ambient air.

Background air quality data have been provided by IDEQ for this project and are summarized in Table 10. Background concentrations will be added to model results for comparison to the National Ambient Air Quality Standards (NAAQS).

TABLE 10
AMBIENT BACKGROUND CONCENTRATIONS

Pollutant	Averaging Period	Ambient Background Concentration ($\mu g/m^3$)
PM2.5	24-hour	21.3[b]
NO2	1-hour	81.5[d]
	Annual	24.5[e]
SO2	1-hour	33.1
	Annual	2.6

[a] 6th highest value.
[b] based on the three year average of the 98th percentile values.
[c] based on the three-year average of the annual mean value.
[d] based on the average of three year of data collected at the St. Luke's Meridian monitoring site from 2009, 2010 and 2011.
[e] based an average of the default background values for small town/suburban areas and rural agricultural values of 32 and 17 $\mu g/m^3$.

Modeling assumptions and results are detailed in a modeling summary tables included in Appendix F. A CD containing modeling files and emission estimates are attached with this application.

7.0 Applicable Requirements

A regulatory analysis was performed for the Chobani facility to determine the applicability of state and federal air quality regulations. The regulatory applicability determinations are included in this section.

The following sections address air quality regulatory compliance requirements for the dairy processing facility. As detailed below, the source will comply with all applicable Idaho air quality regulations codified in IDAPA 58.01.01, as well as applicable EPA Code of Federal Regulations (CFR).

Federal Regulations

New Source Review and Prevention of Significant Deterioration Applicability—40 CFR Parts 51 and 52

In accordance with EPA and IDAPA 58.01.01 205 rules, the Chobani facility will not be required to submit a construction permit application subject to the requirements of New Source Review (NSR) as it is not a major source. The requirements of NSR vary, depending on whether the proposed facility will be located in a non-attainment or attainment area for NAAQS.

New Source Review for Non-Attainment Areas

Non-Attainment Area NSR is the portion of NSR that applies to areas that are not in attainment of NAAQS. Twin Falls County is classified as attainment or unclassifiable for all NAAQS. Therefore, Non-Attainment Area NSR is not required for the Chobani facility.

New Source Review for Attainment or Unclassifiable Areas

Prevention of Significant Deterioration (PSD) is the portion of NSR that applies to pollutants that are in attainment of NAAQS, or are unclassifiable. Twin Falls County is classified as attainment or unclassifiable for the criteria pollutants NO_X, CO, SO_2, ozone, lead, PM_{10}, and $PM_{2.5}$. Therefore, new or modified air emission sources are potentially subject to PSD review for these pollutants, depending on the facility's major source status and on the emission rates of NO_X, CO, SO_2, VOC, PM_{10}, and $PM_{2.5}$.

A PSD review is required if the proposed facility is a major PSD source. A source is considered to be major if:

- It is included in a list of 28 specific source categories and its potential to emit (PTE) any of the NSR-regulated pollutants exceeds 100 tons per year, or
- Its PTE exceeds 250 tons per year for any other source category.

The list of 28 specific source categories with the 100 tons per year threshold does not include general dairy processing facility and the facility is not a designated facility as defined in IDAPA 58.01.01.006.26 Therefore, the proposed source is not subject to a 100 tons per year major source threshold for PSD review.

The Chobani facility could only be considered to be a PSD major source if it has a PTE greater than 250 tons per year of any criteria pollutant. The post project Chobani facility will not have a PTE greater than 250 tons per year for NO_X, CO, VOC, PM_{10}, and $PM_{2.5}$ and therefore will not be considered a major PSD source.

Greenhouse Gas Tailoring Rule

On May 13, 2010, the U.S. Environmental Protection Agency (EPA) issued a final rule that establishes an approach to addressing greenhouse gas emissions from stationary sources under the Clean Air Act (CAA) permitting programs. This final rule sets thresholds for GHG emissions that define when permits under the NSR, PSD, and Title V Operating Permit programs are required for new and existing facilities. This rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain PSD and Title V permits.

Beginning July 1, 2011, the PSD major source threshold of 100,000 tons per year CO2e became effective. A new source with potential GHG emissions above 100,000 tons per year CO2e is now subject to PSD permitting requirements for GHGs, regardless of whether PSD is also triggered for non-GHG pollutants. Modifications to existing major sources (defined relative to the new 100,000 tons per year threshold for CO2e or the 100/250 tons per year threshold for traditional NSR regulated pollutants) that result in an increase of GHG emissions by 75,000 tons per year CO2e or more are subject to PSD permitting requirements for GHGs. Therefore, beginning July 1, 2011, PSD for GHG pollutants can be triggered regardless of whether PSD is also triggered for non-GHG pollutants. In addition, beginning July 1, 2011, facilities with potential CO2e emissions of 100,000 tons per year or more are subject to Title V permitting requirements.

For determining PSD (or Title V) major source or major modification applicability, the quantity of GHGs emitted must not only equal or exceed 100,000 tons per year (75,000 tons per year for modifications) thresholds on a CO2e basis, but the sum of emissions of each GHG pollutant not adjusted for its global warming potential must also exceed the applicable threshold for non-GHG regulated pollutants (i.e., 100 tons per year for Title V or 100 tons per year/250 tons per year for PSD, depending on whether the source is on the list of 28 PSD categories or a designated facility as defined in IDAPA 58.01.01.006.26v).

As the post project total facility CO2e is 98,656.82 tons per year, the Chobani facility is not subject to PSD or Title V operating permit programs with respect to the GHG Tailoring Rule at this time.

New Source Performance Standards - 40 CFR Part 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)

The new dual gas fired Calorix boiler will not be subject to 40 CFR Part 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, as the capacity of the boiler is less than 10 MMBTU/hour.

New Source Performance Standards - 40 CFR Part 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)

The two emergency generators will be subject to 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. A regulatory review was prepared for each emergency generator to identify the applicable requirements in Subpart IIII (see Appendix G).

Specifically, the following requirements will apply to the emergency generators.

- The emergency generators will comply with the following, applicable emission standards (Table 1 per 40 CFR 89.112): NHMC + NOx = 4.0 g/kw-hr; CO = 3.5 g/kw-hr; PM= 0.20 g/kw-hr (See emission calculations for emergency generators in PTC application)
- The emergency generators will use the required ultra low sulfur diesel fuel with a maximum sulfur content of 15 ppmV.
- A non-resettable hour meter will be installed on each emergency generator.
- Maintenance and testing hours of operation for each emergency generator will not exceed 100 hr/yr.

National Emission Standards for Hazardous Air Pollutants - 40 CFR Part 63

Section 112 of the Clean Air Act (CAA) Amendments relates to the release of air toxic contaminants. The requirements of CAA Section 112(g) or (j) are not applicable because the Chobani facility is not a major source of HAPs (40 CFR 63.40(b)).

Part 63 National Emission Standards for Hazardous Air Pollutants (NESHAPS) apply to both major sources of HAPs, defined as PTE equal to or greater than 10 tons per year for any single HAP or PTE equal to or greater than 25 tons per year for total HAP, and area sources of HAPs as defined as any stationary source of HAPs that is not a major source. As HAP emissions are below major source thresholds, the Chobani facility is not a major source of HAPs. However the facility is an area source of HAPs.

National Emission Standard for Hazardous Air Pollutants - 40 CFR Part 63 Subpart DDDDD (NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters)

The new dual gas (biogas and natural gas) fired Calorix boiler will not be subject to 40 CFR Part 63, Subpart DDDDD, NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters as the facility is not a major source of HAP emissions.

National Emission Standard for Hazardous Air Pollutants - 40 CFR Part 63 Subpart JJJJJ (NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources)

As the new dual gas (biogas and natural gas) fired Calorix boiler will combust only biogas or natural gas, the boiler meets the definition a gas-fired boiler. As such the Calorix boiler is not subject to 40 CFR Part 63 Subpart JJJJJ, nor to any requirements in the subpart.

National Emission Standard for Hazardous Air Pollutants - 40 CFR Part 63 Subpart ZZZZ (NESHAP for Reciprocating Internal Combustion Engines)

The two emergency generators will be subject to 40 CFR Part 63 Subpart ZZZZ, NESHAP for Reciprocating Internal Combustion Engines. Per §63., the emergency generators demonstrate compliance with 40 CFR Part 63 Subpart ZZZZ by complying with 40 CFR Part 60 Subpart IIII. Chobani will comply with the 40 CFR Part 63 Subpart ZZZZ by complying with the applicable requirements of 40 CFR Part 60 Subpart IIII.

Acid Rain Deposition Control Program—40 CFR Part 72, 73, 74, and 75

The acid rain deposition control program applies to electric utility steam-generating units. The Chobani facility is not a utility steam generating unit and not subject to the acid rain deposition control program based on the definition of an affected unit.

Protection of Stratospheric Ozone—40 CFR Part 82

Refrigerants that contain ozone-depleting substances are regulated under the Stratospheric Ozone Protection Program (40 CFR 82). The applicable requirements under this program will be performed including maintenance of equipment containing substances (such as, comfort coolers).

Accidental Release Prevention Program—40 CFR Part 68

The proposed project does not include any listed substances above the threshold amount stated I 40 CFR Part 69. However, the storage and use of 14,850 pounds of anhydrous ammonia, a listed hazardous substance, in the

refrigeration system is above the threshold amount stated in 40 CFR Part 68. Therefore, a Risk Management Plan (RMP) will be required. Chobani will submit a RMP prepared in accordance with 40 CFR Part 98 prior to operation of the anhydrous ammonia refrigeration system.

Compliance Assurance Monitoring –40 CFR Part 64

The Compliance Assurance Monitoring (CAM) rule (40 CFR 64) applies to each Pollutant Specific Emissions Unit (PSEU) when it is located at a major source that is required to obtain Title V, Part 70 or 71 permit and it meets all of the following criteria:

The PSEU must:

- be subject to an emission limitation or standard
- use a control device to achieve compliance
- have potential pre-control emissions that exceed or are equivalent to the major source threshold

The Chobani facility is not a major source nor will any control devices be used. Therefore, the CAM rule is not applicable to the Chobani facility.

IDAPA Regulations

IDAPA 58.01.01.123
CERTIFICATION OF DOCUMENTS

> "All documents, including but not limited to, application forms for permits to construct, application forms for operating permits, progress reports, records, monitoring data, supporting information, requests for confidential treatment, testing reports or compliance certifications submitted to the Department shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

Chobani will comply with the regulation outlined in this section.

IDAPA 58.01.01.124
TRUTH, ACCURACY AND COMPLETENESS OF DOCUMENTS

> "All documents submitted to the Department shall be truthful, accurate and complete."

Chobani will comply with the regulation outlined in this section.

IDAPA 58.01.01.125
FALSE STATEMENTS

> "No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under any permit, or any applicable rule or order in force pursuant thereto."

Chobani will comply with the regulation outlined in this section.

IDAPA 58.01.01.130
STARTUP, SHUTDOWN, SCHEDULED MAINTENANCE, SAFETY MEASURES, UPSET AND BREAKDOWN.

1. Calorix Boiler

If an excess emission event occurs during startup, shutdown, scheduled maintenance, safety measures, upset or breakdown, the Chobani facility will comply with IDAPA 58.01.01.130 through 58.01.01.136.

In the event of an upset or breakdown of the Calorix boiler, the malfunctioning unit would be shut down. This includes any malfunction that could create excess emissions.

IDAPA 58.01.01.156
TOTAL COMPLIANCE

"Where more than one (1) section of these rules applies to a particular situation, all such rules must be met for total compliance, unless otherwise provided for in these rules."

Chobani will comply with the regulations outlined in this section.

IDAPA 58.01.01.157
TEST METHODS AND PROCEDURES

1. Calorix Boiler
2. Biogas Flare

If an emission test is required, the Chobani facility will adhere to procedures outlined in IDAPA 58.01.01.157.

IDAPA 58.01.01.161
TOXIC SUBSTANCES

1. Calorix Boiler
2. Biogas Flare
3. Emergency Generators

"Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation."

See emission calculations in Appendix C and modeling results in Appendix F.

IDAPA 58.01.01.200
PROCEDURES AND REQUIREMENTS FOR PERMITS TO CONSTRUCT

1. Calorix Boiler
2. Biogas Flare
3. Emergency Generators

Upon approval of the PTC Modification by IDEQ, Chobani will follow the procedures and requirements outlined under IDAPA 58.01.01.200 for obtaining a PTC.

IDAPA 58.01.01.210
DEMONSTRATION OF PRECONSTRUCTION COMPLIANCE WITH TOXIC STANDARDS

1. Calorix Boiler
2. Biogas Flare
3. Emergency Generators

"In accordance with Subsection 203.03, the applicant shall demonstrate preconstruction compliance with Section 161 to the satisfaction of the Department. The accuracy, completeness, execution and results of the demonstration are all subject to review and approval by the Department."

See emission calculations in Appendix C and modeling results in Appendix F.

IDAPA 58.01.01.220
GENERAL EXEMPTION CRITERIA FOR PERMIT TO CONSTRUCT EXEMPTIONS

1. Calorix Boiler
2. Biogas Flare
3. Emergency Generators

IDAPA 58.01.01.220a Major Source or Major Modification

"The maximum capacity of a source to emit an air pollutant under its physical and operational design without consideration of limitations on emission such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored or processed would not:

i. Equal or exceed one hundred (100) tons per year of any regulated air pollutant.
ii. Cause an increase in the emissions of a major facility that equals or exceeds the significant emissions rates set out in the definition of significant at Section 006."

IDAPA 58.01.01.220b Combination

The source is not part of a proposed new major facility or part of a proposed major modification.

The post project Chobani facility will not have the PTE equal to or exceeding 100 tons per year for any regulated air pollutant and will not be a major facility or part of a proposed new major facility or part of a proposed major modification.

IDAPA 58.01.01.221 Category I Exemption

"No permit to construct is required for a source that satisfies the criteria set forth in Section 220 and the following:"

IDAPA 58.01.01.221.01 Below Regulatory Concern.

"The maximum capacity of a source to emit an air pollutant under its physical and operational design considering limitations on emissions such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored or processed shall be less than ten percent (10%) of the significant emission rates set out in the definition of significant at Section 006."

The post project Chobani facility does not meet the BRC criteria of a Category I exemption outlined in IDAPA 58.01.01.221.01 (Below Regulatory Concern).

IDAPA 58.01.01.300
PROCEDURES AND REQUIREMENTS FOR TIER I OPERATING PERMITS

"The purposes of Sections 300 through 399 are to establish requirements and procedures for the issuance of Tier I operating permits."

The post project Chobani facility does not contain any Tier I sources and is therefore not subject to the applicable requirements in Section 300 through 399.

IDAPA 58.01.01.577
AMBIENT AIR QUALITY STANDARDS FOR SPECIFIC AIR POLLUTANTS
(PM-10, SOx, NOx, CO, Pb)

1. Calorix Boiler
2. Biogas Flare
3. Emergency Generators

IDAPA 58.01.01.577.01 PM-10 Standards

IDAPA 58.01.01.577.01.a Primary and Secondary Standards

IDAPA 58.01.01.577.01.a.i Annual Standard

"Fifty (50) micrograms per cubic meter, as an annual arithmetic mean -- never expected to be exceeded in any calendar year."

IDAPA 58.01.01.577.01.a.ii **24-hr Standard**

"One hundred fifty (150) micrograms per cubic meter as a maximum twenty-four (24) hour concentration -- never expected to be exceeded more than once in any calendar year."

IDAPA 58.01.01.577.02 **Sulfur Oxides (Sulfur Dioxide)**

IDAPA 58.01.01.577.02.a **Primary Standards**

IDAPA 58.01.01.577.02.a.i **Annual Standard**

"Eighty (80) micrograms per cubic meter (0.03 ppm), as an annual arithmetic mean–not to be exceeded in any calendar year."

IDAPA 58.01.01.577.02.a.ii **24-hr Standard**

"Three hundred sixty-five (365) micrograms per cubic meter (0.14 ppm), as a maximum twenty-four (24) hour concentration–not to be exceeded more than once in any calendar year."

IDAPA 58.01.01.577.02.b **Secondary Standard**

"Secondary air quality standards are one thousand three hundred (1,300) micrograms per cubic meter (0.50 ppm), as a maximum three (3) hour concentration–not to be exceeded more than once in any calendar year."

IDAPA 58.01.01.577.04 Nitrogen Dioxide

"Primary and secondary air quality standards are one hundred (100) micrograms per cubic meter (0.05 ppm) – annual arithmetic mean."

IDAPA 58.01.01.577.05 Carbon Monoxide Primary and Secondary Standards
IDAPA 58.01.01.577.05.a **8-hr Standard**

"Eight (8) Hour Standard. Ten (10) milligrams per cubic meter (9 ppm) – maximum eight (8) hour concentration not to be exceeded more than once per year."

IDAPA 58.01.01.577.05.b **1-hr Standard**

"One (1) Hour Standard. Forty (40) milligrams per cubic meter (35 ppm) – maximum one (1) hour concentration not to be exceeded more than once per year."

IDAPA 58.01.01.577.7 **Lead**

"Primary and secondary standards for lead and its compounds, measured as elemental lead, are one and one-half (1.5) micrograms per cubic meter (1.5 ug/m3), as a quarterly arithmetic mean -- not to be exceeded in any quarter of any calendar year."

Chobani will comply with the regulations outlined in this section.

IDAPA 58.01.01.578
DESIGNATION OF ATTAINMENT, UNCLASSIFIABLE, AND NONATTAINMENT AREAS

The site of the Chobani facility, Twin Falls County, is in an attainment or unclassifiable area for NO_x, CO, SO_2, ozone, lead, PM_{10}, and $PM_{2.5}$; the appropriate modeling parameters reflect this designation.

IDAPA 58.01.01.590
NEW SOURCE PERFORMANCE STANDARDS

Please see compliance review in the federal summary.

IDAPA 58.01.01.591
NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Please see compliance review in the federal summary

IDAPA 58.01.01.625
VISIBLE EMISSIONS

1. Calorix Boiler
2. Biogas Flare
3. Emergency Generators

"A person shall not discharge any air pollutant into the atmosphere from any point of emission for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period which is greater than twenty percent (20%) opacity as determined by this section."

It is proposed that the Chobani facility conduct a quarterly inspection of the boiler, flare and engine stacks during periods when the boiler, flare, and engines are in operation. The inspection will be conducted during daylight hours and under normal operating conditions. The inspection will consist of a see/no see evaluation. If any visible emissions are present from the point of emission, appropriate corrective action will be taken as expeditiously as practicable, or a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625 will be performed. Records of the results of each visible emission inspection and each opacity test when conducted will be maintained. The records will include, at a minimum, the date and results of each inspection and test and a description of the following: the assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

IDAPA 58.01.01.650
RULES FOR CONTROL OF FUGITIVE DUST

Chobani will take all reasonable precautions to prevent the generation of fugitive dust as outlined under IDAPA 58.01.01.650-651.

IDAPA 58.01.01.651
GENERAL RULES

"All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities and atmospheric conditions which might affect the movement of particulate matter. Some of the reasonable precautions may include, but are not limited to, the following:"

IDAPA 58.01.01.651.01 Use Of Water or Chemicals

"Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land."

IDAPA 58.01.01.651.02 Application Of Dust Suppressants

"Application, where practical, of asphalt, oil, water or suitable chemicals to, or covering of dirt roads, material stockpiles, and other surfaces which can create dust."

IDAPA 58.01.01.651.04 Covering Of Trucks

"Covering, when practical, open bodied trucks transporting materials likely to give rise to airborne dusts."

IDAPA 58.01.01.651.05 Paving

"Paving of roadways and their maintenance in a clean condition, where practical."

IDAPA 58.01.01.651.06 Removal Of Materials

"Prompt removal of earth or other stored material from streets, where practical."

Chobani will monitor and maintain records of the frequency and the method(s) used (for example, water) to reasonably control fugitive emissions. A quarterly facility-wide inspection will be conducted of the sources of fugitive emissions during daylight hours and under normal operating conditions to ensure that the methods used to reasonably control fugitive emissions are effective. If fugitive emissions are not being reasonably controlled, the Chobani facility will undertake corrective action as expeditiously as practicable. Records of the results of each fugitive emissions inspection will be maintained. The records will include, at a minimum, the date of each inspection and a description of the following: the facilities assessment of the conditions existing at the time fugitive emissions were present (if observed), any corrective action taken in response to the fugitive emissions, and the date the corrective action was taken.

Records will be maintained of all fugitive dust complaints received. Appropriate corrective action will be taken as expeditiously as practicable after receipt of a valid complaint. The records will include, at a minimum, the date that each complaint was received and a description of the following: the complaint, the facilities assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

IDAPA 58.01.01.675
FUEL BURNING EQUIPMENT -- PARTICULATE MATTER

1. Calorix Boiler
2. Biogas Flare
3. Emergency Generators

Chobani will adhere to guidelines under IDAPA 58.01.01.675 through IDAPA 58.01.01.681 with regards to particulate emissions for fuel burning equipment.

IDAPA 58.01.01.676
STANDARDS FOR NEW SOURCES

"A person shall not discharge into the atmosphere from any fuel burning equipment with a maximum rated input of ten (10) million BTUs per hour or more, and commencing operation on or after October 1, 1979, particulate matter in excess of the concentrations shown in the following table:"

Fuel Type	Allowable Particulate gr/dscf	Emissions, @Oxygen
Gas	0.015	3%

The Calorix boiler, flare, and the emergency generators are rated less than 10 MMBtu/hr. Therefore; the Calorix boiler, flare, and emergency generators are not applicable to this regulation.

IDAPA 58.01.01.700-701
PARTICULATE MATTER-PROCESS WEIGHT LIMITATIONS

Chobani maintains only fuel burning equipment. Therefore, this rule is not applicable to the Chobani facility.

IDAPA 58.01.01.775
RULES FOR CONTROL OF ODORS

Chobani will follow the guidelines set under IDAPA 58.01.01.775 through IDAPA 58.01.01.776 to control odorous emissions from all sources for which no gaseous emission control rules apply.

IDAPA 58.01.01.776
GENERAL RULES

IDAPA 58.01.01.776.01 General Restrictions

"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids into the atmosphere in such quantities as to cause air pollution."

Chobani will follow the guidelines set under IDAPA 58.01.01.775 through IDAPA 58.01.01.776 to control odorous emissions from all sources for which no gaseous emission control rules apply.

IDAPA 58.01.01.785
RULES FOR CONTROL OF INCINERATORS

The flare is used to destroy biogas. The candlestick flare meets the definition of "incinerator" per IDAPA 58.01.01.51:

> ***Incinerator.*** *Any source consisting of a furnace and all appurtenances thereto designed for the destruction of refuse by burning. "Open Burning" is not considered incineration. For purposes of these rules, the destruction of any combustible liquid or gaseous material by burning in a flare stack shall be considered incineration.*

Therefore, the flare is subject to the PM standard for incineration per IDAPA 58.01.01.786.01, based on pounds of "refuse" burned:

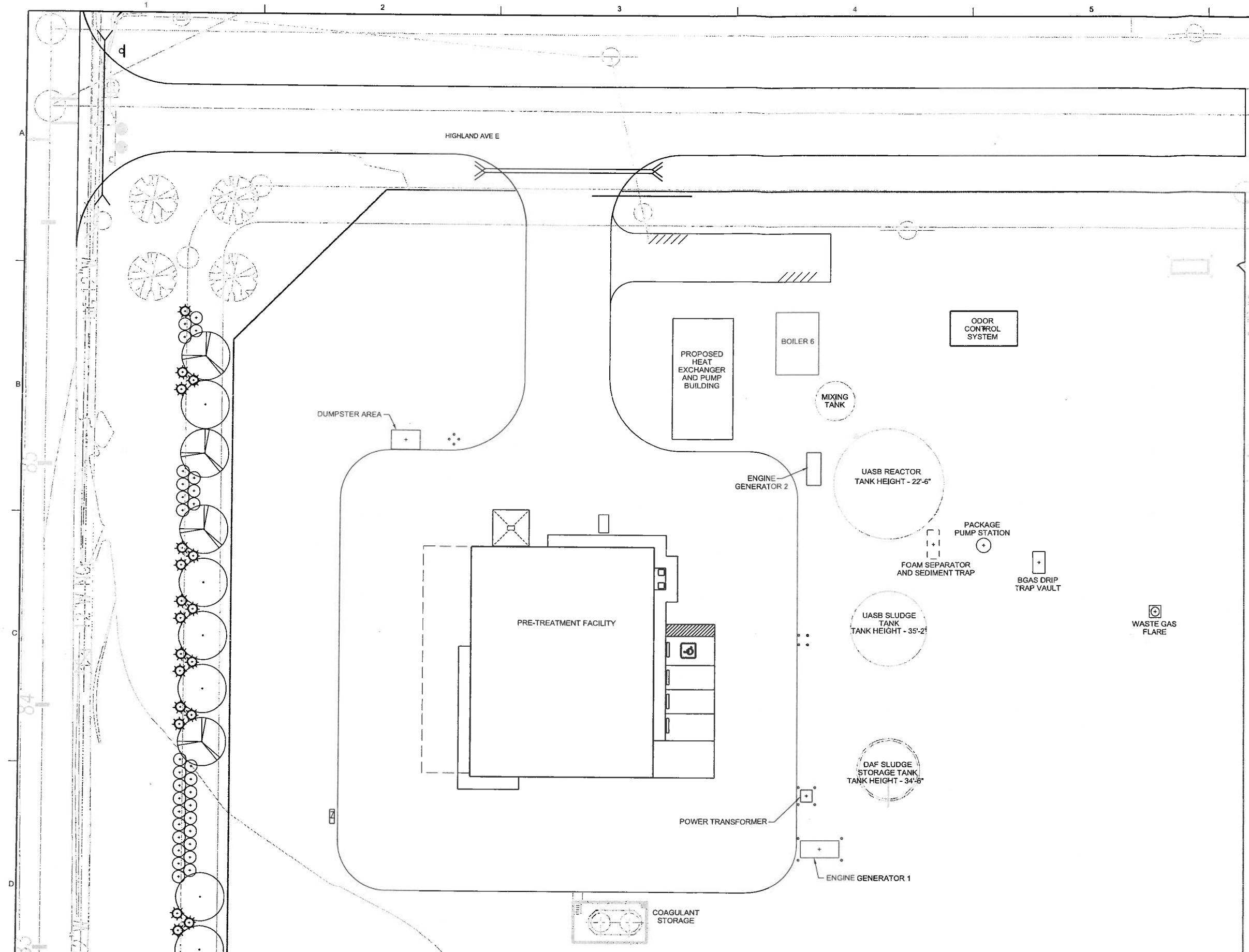
IDAPA 58.01.01.786.01 General Restrictions

"No person shall allow, suffer, cause or permit any incinerator to discharge more than 0.2 pounds of particulates per 100 pounds of refuse burned."

The term "refuse" is not defined in the air quality regulations in IDAPA 58.01.01. The flare is used to destruct excess biogas. For the purpose of this regulatory review, the "refuse" burned is considered to be biogas.

As detailed in Appendix C, PM emissions of biogas combustion is in compliance with the PM standard for incineration.

Figures



PTF LOCATION PLAN

1" = 20'

ORIGINAL DRAWING SIGNED AND DATED ON 01/27/2012 BY REGISTRANT SHOWN. ORIGINAL DRAWING IS STORED AT CH2M HILL BOISE, IDAHO

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
	11.02.12	J.BURNS	A.ROLLINS	B. ROBERTS		LH	JN

REVISED CONFORMED SET
INCLUDES CLARIFICATIONS B001-B011 AND RFTS B0001-B0069, B0071-B0075

REVISION

S.NORMANDIN

CHOBANI INDUSTRIAL WASTEWATER
PRETREATMENT FACILITY
FOR THE CITY OF TWIN FALLS
TWIN FALLS, IDAHO

CH2MHILL®

CIVIL
PTF LOCATION PLAN

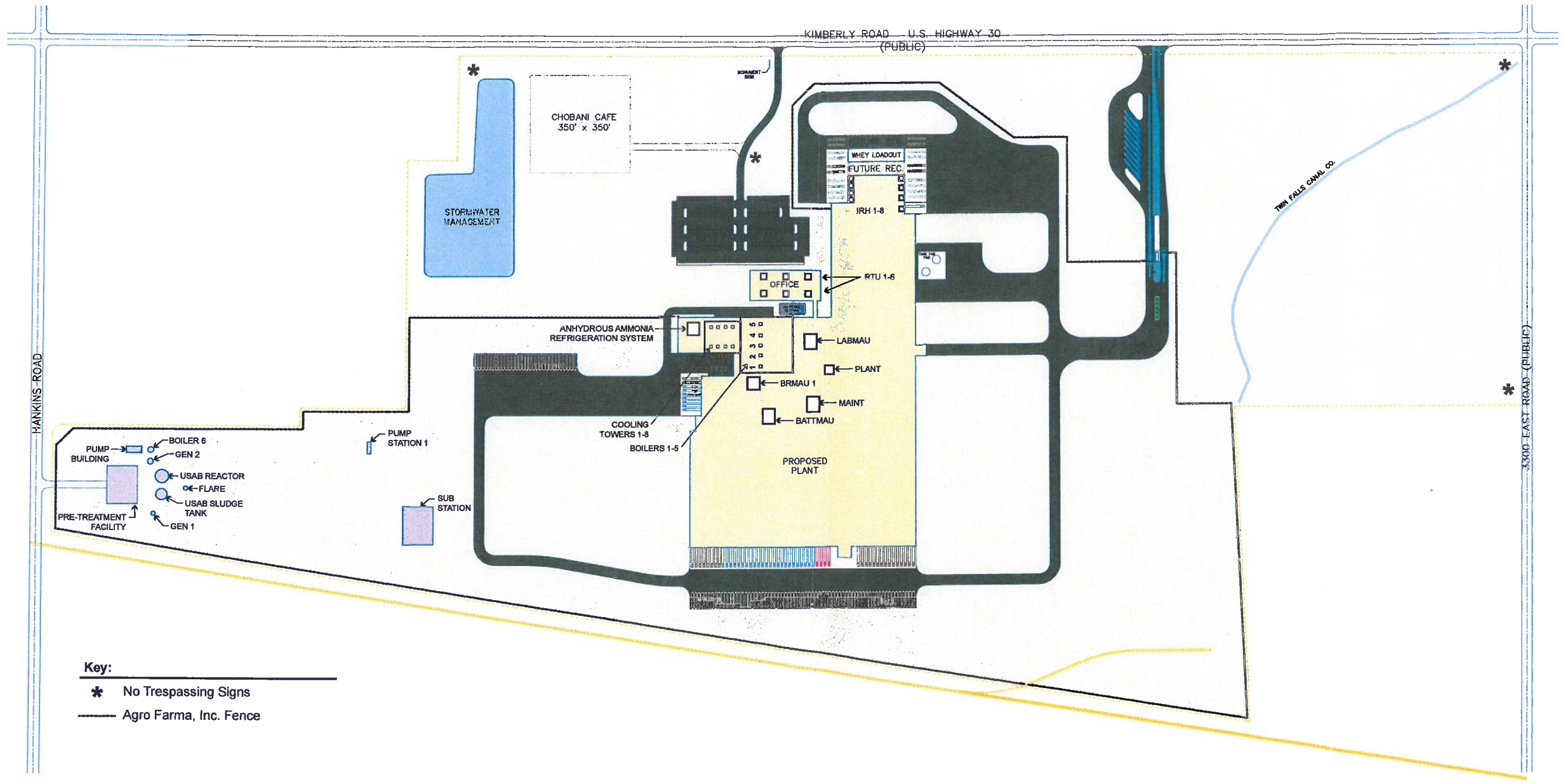
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING,
0 1"

DATE	JUNE 8, 2012
PROJ	429376
DWG	
SHEET	XX of 102

REVISED CONFORMED SET - NOVEMBER 2, 2012

FILENAME: AirPermit_Figure.dgn PLOT DATE: 2012\11\06 PLOT TIME: 2:53:42 PM

TIPPMANN GROUP
PRELIMINARY
FOR INFORMATION ONLY, NOT FOR CONSTRUCTION: 11/30/2011



Key:

* No Trespassing Signs

——— Agro Farma, Inc. Fence

Note:

Ambient Air Boundary for Agro Farma, Inc. is identified by the fence to the south, and fence and no trespassing signs for the area between Hankins Rd, 3300 East Rd, and Kimberly Rd.

N

PROPOSED SITE PLAN
SCALE: 1" = 150'-0"

Figure 1
GENERAL LOCATION PLAN
CHOBANI
Twin Falls, Idaho

TC-MS
00-00-2011

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Appendix A

Justification Memorandum

Single Source and Common Control Memorandum

PREPARED FOR: Idaho Department of Environmental Quality

COPY TO: Valerie Waterland/Agro Farma
Jackie Fields/City of Twin Falls

PREPARED BY: CH2M HILL Engineers, Inc. on behalf of Chobani Idaho, Inc. ("Chobani")

DATE: November 12, 2012

On January 5, 2012, CH2M HILL prepared a Justification Memorandum demonstrating that the Chobani dairy processing facility ("Dairy Plant") and the City of Twin Falls Wastewater Pre-Treatment Facility ("PTF") were separate facilities on the basis that the facilities do not belong to the same industrial grouping, were not support facilities to each other, and did not share common control. On January 13, 2012, the Idaho Department of Environmental Quality (IDEQ) issued a concurrence letter that the Dairy Plant and PTF could be treated as separate facilities for the reasons set forth in the Justification Memorandum. IDEQ approved a Permit To Construct for each of the two facilities.

To accommodate an expanded operation of the Dairy Plant, and thus also of the PTF, the City of Twin Falls and Chobani have now agreed to consolidate operational control of the PTF with Chobani. As such, the PTF and Dairy Plant should be considered as a single Facility (i.e. single source) with a single Permit To Construct for the reasons set forth in this memorandum. This memorandum accompanies an application to combine the emission sources from the Dairy Plant and the PTF into one facility permit.

A Permit to Construct is required for each new or modified Facility (or, in federal terms, for each stationary source). Under IDEQ's regulations, a "Facility" includes all of the pollutant-emitting activities that (1) belong to the same industrial grouping, (2) are on contiguous properties, and (3) are under common control. IDAPA 58.01.01.006.40. This is similar to the federal regulations' definition of "stationary source" and the subsumed definition of "building, structure, facility or installation." 40 CFR §§ 71.2, 51.165(a)(1)(i) and (ii).

The PTF and Dairy Plant satisfy these criteria and thus qualify as a single source:

(1) The PTF and Dairy Plant have two separate industrial groupings, but the PTF is a support facility. The SIC code for the PTF is 4952 and the SIC Code for the Dairy Plant is 2026. However, the PTF is a support facility for the Dairy Plant and thus may be considered to be in the same industrial grouping as the primary facility. Based on Environmental Protection Agency ("EPA") guidance, a support facility relationship is presumed to exist where more than 50% of the output or services provided by one facility are dedicated to another facility that it supports. 62 Fed.Reg. 30289. 100% of the PTF is dedicated to the Dairy Plant's use.

(2) The PTF and Dairy Plant are on contiguous properties.

(3) The PTF and Dairy Plant are under common control. EPA has determined that the location of one facility within another facility's property (i.e. "co-location") creates a presumption of common control. EPA Guidance Letter to Virginia DEQ (Jan. 10, 2012). The PTF is located entirely within Chobani's property, satisfying the co-location presumption of common control. Additional facts also support a common control determination:

a. Chobani (through its contractor(s)) will operate 100% of the PTF.
b. The PTF is obligated to accept a specific level of discharge from the Dairy Plant.
c. The level of discharge the PTF is obligated to accept is sufficient to accommodate 100% of the Dairy Plant's pre-treatment needs.
d. Chobani is obligated to deliver its wastewater to the PTF as opposed to another facility.

Appendix B

IDEQ Application Forms

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

General Information **Form GI**
Revision 7
2/18/10

Please see instructions on page 2 before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION

1 Company Name	2 Facility Name
Chobani (Agro Farma, Inc.)	Dairy Processing Facility Twin Falls
3 Brief Project Description:	New dairy processing facility in Twin Falls

FACILITY INFORMATION

4 Primary Facility Permit Contact Person/Title	Valerie Waterland	EHS Manager	
5 Telephone Number and Email Address	360-581-6982	Valerie.Waterland@chobani.com	
6 Alternate Facility Contact Person/Title			
7 Telephone Number and Email Address			
8 Address to Which the Permit Should be Sent	3450 Kimberly Road E.		
9 City/County/State/Zip Code	Twin Falls	Twin Falls	Idaho 83301
10 Equipment Location Address (if different than the mailing address above)			
11 City/County/State/Zip Code			
12 Is the Equipment Portable?	☐ Yes ☒ No		
13 SIC Code(s) and NAICS Code	Primary SIC: 2026	Secondary SIC:	NAICS: 311511
14 Brief Business Description and Principal Product	Dairy processing facility to produce yogurt		
15 Indentify any adjacent or contiguous facility that this company owns and/or operates			
16 Specify the reason for the application	☒ Permit to Construct (PTC) For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit. ☐ Incorporate the PTC at the time of the Tier I renewal ☐ Co-process the Tier I modification and PTC ☐ Administratively amend the Tier I permit to incorporate the PTC upon your request (IDAPA 58.01.01.209.05.a, b, or c) ☐ Tier I Permit ☐ Tier II Permit ☐ Tier II/Permit to Construct		

CERTIFICATION

In accordance with IDAPA 58.01.01.123 (Rules for the Control of Air Pollution in Idaho), I certify based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

17 Responsible Official's Name/Title	Valerie Waterland	EHS Manager	
18 Responsible Official's Signature	Valerie Waterland	Date	11/29/12

19. ☒ Check here to indicate that you would like to review the draft permit prior to final issuance.

DEQ AIR QUALITY PROGRAM
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Cover Sheet for Air Permit Application – Permit to Construct **Form CSPTC**

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	Agro Farma, Inc.		
2. Facility Name	Agro Farms Twin Falls – Chobani Facility	3. Facility ID No.	083-00138
4. Brief Project Description - One sentence or less	Dairy processing facility that will produce yogurt		

PERMIT APPLICATION TYPE

5. ☐ New Source ☐ New Source at Existing Facility ☐ PTC for a Tier I Source Processed Pursuant to IDAPA 58.01.01.209.05.c
☐ Unpermitted Existing Source ☐ Facility Emissions Cap ☒ Modify Existing Source: Permit No.: P-2012.0003 Date Issued: 5/4/12
☐ Required by Enforcement Action: Case No.: ____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms		DEQ Verify
☒	☐	Form CSPTC – Cover Sheet		☐
☒	☐	Form GI – Facility Information		☐
☒	☐	Form EU0 – Emissions Units General		☐
☒	☐	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: 2	☐
☐	☒	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: ____	☐
☐	☒	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: ____	☐
☐	☒	Form EU4– Cooling Tower Information	Please specify number of EU3s attached:	☐
☒	☐	Form EU5 – Boiler Information	Please specify number of EU4s attached: 1	☐
☐	☒	Form CBP– Concrete Batch Plant	Please specify number of CBPs attached: ____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached: ____	☐
☐	☒	PERF – Portable Equipment Relocation Form		☐
☐	☒	Form AO – Afterburner/Oxidizer		☐
☐	☒	Form CA – Carbon Adsorber		☐
☐	☒	Form CYS – Cyclone Separator		☐
☐	☒	Form ESP – Electrostatic Precipitator		☐
☐	☒	Form BCE– Baghouses Control Equipment		☐
☐	☒	Form SCE– Scrubbers Control Equipment		☐
☐	☒	Form VSCE – Venturi Scrubber Control Equipment		☐
☐	☒	Form CAM – Compliance Assurance Monitoring		☐
☐	☒	Forms EI– Emissions Inventory		☐
☒	☐	PP – Plot Plan		☐
☒	☐	Forms MI1 – MI4 – Modeling	(Excel workbook, all 4 worksheets)	☐
☒	☐	Form FRA – Federal Regulation Applicability		☐

DEQ AIR QUALITY PROGRAM
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For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
City of Twin Falls	Waste Water Pre-Treatment Facility	083-00138

4. Brief Project Description: Operation of a new pre-treatment facility flaring biogas from anaerobic digestion

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	ANAEROBIC DIGESTERS #1, #2
6.	EU ID Number:	
7.	EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source – Previous Permit #:P-2012.0003 Date Issued: 5/4/12
8.	Manufacturer:	
9.	Model:	
10..	Maximum Capacity:	EACH DIGESTER 250,000 GALLONS
11.	Date of Construction:	TO BE CONSTRUCTED IN 2012
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	Candlestick Flare
15. Date of Installation:	TBD in 2012 16. Date of Modification (if any):
17. Manufacturer and Model Number:	Varec
18. ID(s) of Emission Unit Controlled:	
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. See Appendix E

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HOURS/YR
23.	Maximum Operation:	8760 HOURS/YR

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☒ Yes ☐ No (If Yes, indicate all that apply below)
	☐ Operation Hour Limit(s):	
	☒ Production Limit(s):	140,688 SCF/DAY BIOGAS
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	REQUESTED LIMIT BASED ON VAREC MAXIMUM FLOW RATE

DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 1-877-5PERMIT

Emissions Units - Industrial Engine Information **Form EU1**
Revision 8
1/15/10

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	
City of Twin Falls	Waste Water Pre-Treatment Facility	
3 Brief Project Description:	Operation of a new pre-treatment facility flaring biogas from anaerobic digestion	

ENGINE (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

4. Type of Unit:	☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2012.0003 Date Issued: 5/4/12		
5. Engine Displacement:	1.12 (liters per cylinder)	6. Ignition Type:	☒ Compression ☐ Spark
7. Use	☒ Emergency ☐ Non-Emergency		
8. Engine ID Number: 175 kW Gen 01 (324 HP)	9. Maximum Rated Engine Power: _____ Brake Horsepower (bhp)		
10. Construction Date: (To be installed in 2012	11. Manufacturer: Cummins	12. Model: DSGAD	13. Model Year: 2011
14. Date of Modification (if applicable):	15. Serial Number (if available):	16. Control Device (if any):	

FUEL DESCRIPTION AND SPECIFICATIONS

17. Fuel Type	☒ Diesel Fuel (#) (gal/hr)	☐ Gasoline Fuel (gal/hr)	☐ Natural Gas (cf/hr)	☐ Other Fuels (unit:)
18. Full Load Consumption Rate	28			
19. Actual Consumption Rate	7.96(50% load)			
20. Sulfur Content wt%	0.0015	N/A	N/A	

OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):
100 hours/ year

22. Operating Schedule (hours/day, months/year, etc.):

Instructions for Form EU1

1 – 3. Provide the same company name, facility name (if different), and brief project description as on Form CS. This is useful in case any pages of the application are separated. This industrial engine may be subject to the *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* (40 CFR 60, Subpart IIII). Follow the link for applicability and compliance information. If Subpart IIII applies to this engine, complete and include Form FRA.

Engine Description and Specification:

4. Indicate whether the engine is new, existing but unpermitted, or being modified.
5. Indicate the engine displacement in liters per cylinder.
6. Indicate the ignition type as either compression or spark.
7. Indicate whether the primary use of the engine is emergency or non-emergency.
8. Provide the identification (ID) number of the engine emission unit (EU). Each engine in the application must have its own number. If engines included in this permit application are not identical in make and model, fill out a separate EU1 form for each engine. If the engines are identical, attach a separate sheet labeled EU1A listing them by ID number and date of construction or modification. The ID number can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and all other air quality permit applications (e.g., operating permit application) to identify this EU.
9. The maximum rated horsepower should be read from the engine's nameplate or from the manufacturer's user's manual or similar literature.
10. The date of construction of the engine is the date, month, and year in which construction or modification begins as defined in EU0 Form Instruction item 11.
11. Provide the name of the manufacturer of the engine.
12. Provide the model number of the engine. This number should be available from the nameplate of the engine.
13. Provide the model year of the engine.
14. If the engine has been or will be modified, give the date, month, and year of the most recent or future modification.
15. Provide the manufacturer's serial number for this engine, if available.
16. Provide the control device name and number if a control device is attached to this engine. The name and number of the control device should be consistent with control equipment forms and throughout the application.

Fuel Description and Specifications:

17. Indicate the fuel type used by the engine. If diesel fuel is used, you need to indicate the ranking number (e.g., diesel fuel No. 2). If the engine is a dual-fuel engine, please check the appropriate fuel type boxes.
18. The full-load consumption rate is the fuel consumption rate at the engine's rated capacity.
19. The actual consumption rate is the fuel consumption rate (usually daily average) under typical operational conditions.
20. Provide the weight percentage of the sulfur content in the diesel oil.

Operation Limits:

21. If any, indicate the operating limits you imposed to this engine in the units of operating hours per year, or gallons fuel per hour, per year, etc.
22. Indicate your operation schedule for the projected maximum operation of the engine.

DEQ AIR QUALITY PROGRAM
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Emissions Units - Industrial Engine Information **Form EU1**
Revision 8
1/15/10

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	
City of Twin Falls	Waste Water Pre-Treatment Facility	
3 Brief Project Description:	Operation of a new pre-treatment facility flaring biogas from anaerobic digestion	

ENGINE (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

4. Type of Unit:	☒ New Unit ☐ Unpermitted Existing Unit ☐ Modification to a Unit with Permit #: Date Issued:		
5. Engine Displacement:	15.2 Liter (liters per cylinder)	6. Ignition Type:	☒ Compression ☐ Spark
7. Use	☒ Emergency ☐ Non-Emergency		
8. Engine ID Number: 350 kW Gen 02 (469 HP)	9. Maximum Rated Engine Power: _____ Brake Horsepower (bhp)		
10. Construction Date: (To be installed in 2013)	11. Manufacturer: Cat	12. Model: CAT C15 ATAAC (Engine)	13. Model Year: 2011
14. Date of Modification (if applicable):	15. Serial Number (if available):	16. Control Device (if any):	

FUEL DESCRIPTION AND SPECIFICATIONS

17. Fuel Type	☒ Diesel Fuel (#) (gal/hr)	☐ Gasoline Fuel (gal/hr)	☐ Natural Gas (cf/hr)	☐ Other Fuels (unit)
18. Full Load Consumption Rate	28.6			
19. Actual Consumption Rate	17.5 (50% load)			
20. Sulfur Content wt%	0.0015	N/A	N/A	

OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):
100 hours per year

22. Operating Schedule (hours/day, months/year, etc.):

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
Agro Farma, Inc.	Dairy Processing Facilty, Twin Falls	083-00138

4. Brief Project Description: New Dairy Processing Facility

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: ☒ New Unit ☐ Unpermitted Existing Unit ☐ Modification to a Unit with Permit #:

6. Use of Boiler: ☒ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other:

7. Boiler ID Number: 06	8. Rated Capacity: ☒ 8 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: Januray 2012	10. Manufacturer: Calorix	11. Model: Calorix
12. Date of Modification (if applicable):	13. Serial Number (if available):	14. Control Device (if any): **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☒ Other Fuels (unit:cf /hr)
16. Full Load Consumption Rate		7843		13333
17. Actual Consumption Rate		7843		13333
18. Fuel Heat Content (Btu/unit, LHV)		1020		600
19. Sulfur Content wt%				
20. Ash Content wt%		N/A		

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA		
22. Steam Temperature (°F)	N/A	N/A		122
23. Steam Pressure (psi)	N/A	N/A		
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☒ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	8760 hours per year
26. Operating Schedule (hours/day, months/year, etc.):	24 hours per day, 365 days per year
27. NSPS Applicability: ☐ Yes ☒ No	If Yes, which subpart:

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

AIR PERMIT APPLICATION

Revision 6
10/7/09

For each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: Agro Farma, Inc.	2. Facility Name: Agro Farma Twin Falls - Chobani Facility
3. Brief Project Description: Dairy processing facility that will produce yogurt	

APPLICABILITY DETERMINATION	
4. List applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). Examples of NSPS affected emissions units include internal combustion engines, boilers, turbines, etc. The applicant must thoroughly review the list of affected emissions units.	List of applicable subpart(s): 40 CFR 60 Subpart IIII – NSPS for diesel engines Refer to Appendix G ☐ Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR part 61 and 40 CFR part 63. Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. EPA has a web page dedicated to NESHAP that should be useful to applicants.	List of applicable subpart(s): ☐ Not Applicable
6. For each subpart identified above, conduct a complete a regulatory analysis using the instructions and referencing the example provided on the following pages. **Note** - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation applies. Regulatory reviews that are submitted with insufficient detail will be determined incomplete.	☐ A detailed regulatory review is provided (Follow instructions and example). ☐ DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT

It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand what those requirements are prior to the application being submitted but that DEQ will not perform the required technical or regulatory analysis on the applicant's behalf.

Appendix C

Emission Estimates

AgroFarma Twin Falls - Chobani Facility Baseline Emission Estimate Summary

Criteria Pollutants Emissions Unit Name	Stack ID	PM_{10}[1]		$PM_{2.5}$[1]		NOx		SO_2		CO		VOC		Lead		HAPs		GHGs - CO2e	
		lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	Short ton/year
Cleaver Brooks CBLE-700-800 NG Boiler 1	BOILER1	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 2	BOILER2	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 3	BOILER3	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 4	BOILER4	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 5	BOILER5	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired)	BRMAU 1	0.03	0.13	0.03	0.13	0.35	1.53	0.002	0.01	0.30	1.31	0.02	0.09	1.76E-06	7.71E-06	0.01	0.03	423.01	1,852.79
Lab MAU - Aaron RN-050 (6,000 cfm, indirect fired RTU)	LABMAU	0.01	0.04	0.01	0.04	0.08	0.35	0.0005	0.002	0.07	0.31	0.004	0.02	3.97E-07	1.74E-06	1.51E-03	0.01	95.52	418.36
Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired)	BATTMAU	0.03	0.13	0.03	0.13	0.35	1.53	0.002	0.01	0.30	1.31	0.02	0.09	1.76E-06	7.71E-06	0.01	0.03	423.01	1,852.79
Main Office RTU 1 - Carrier 48A5,T,030 (indirect fired)	RTU1	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 2 - Carrier 48A5,T,030 (indirect fired)	RTU2	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 3 - Carrier 48A5,T,030 (indirect fired)	RTU3	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 4 - Carrier 48A5,T,030 (indirect fired)	RTU4	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU5	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU6	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	1.72E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Meeting/RR/Plant Offices/Maintenance Office RTU - Carrier 48A5,S,020 (indirect fired)	PLANT	0.003	0.01	0.003	0.01	0.03	0.13	0.0002	0.0009	0.03	0.13	0.002	0.01	1.72E-07	7.53E-07	6.47E-04	2.83E-03	41.26	180.70
Maintenance/Parts/Fab RTU - Carrier 48A5,S,060 (indirect fired)	MAINT	0.01	0.04	0.01	0.04	0.11	0.48	0.0007	0.003	0.10	0.44	0.01	0.04	5.71E-07	2.50E-06	2.15E-03	0.01	137.24	601.10
Reznor VR-2---60 Receiving Bay IRH 1	IRH1	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 2	IRH2	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 3	IRH3	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 4	IRH4	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 5	IRH5	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 6	IRH6	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 7	IRH7	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 8	IRH8	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
8 One Cell Cooling Towers	CT01-CT8	0.25	1.10	0.25	1.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anhydrous Ammonia Refrigeration System (8 Chillers)	REFRIG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Baseline Totals		**2.02**	**8.90**	**2.02**	**8.90**	**12.98**	**56.86**	**0.11**	**0.49**	**7.10**	**31.15**	**0.73**	**3.20**	**8.69E-05**	**3.81E-04**	**0.33**	**1.42**	**20,936.24**	**91,700.80**

[1]Assumes $PM_{2.5}$ and PM_{10} emissions are equal to PM emissions.

AgroFarma Twin Falls - Chobani Changes in Potential to Emit for Regulated Air Pollutants

Source	PM_{10}		$PM_{2.5}$		NOx		SO_2		CO		VOC		Lead		HAPs		GHGs - CO2e	
	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	Short ton/year
Pre-Project Facility Total	2.02	8.90	2.02	8.90	12.98	56.86	0.11	0.49	7.10	31.15	0.73	3.20	8.69E-05	3.81E-04	0.33	1.42	20,936.24	91,700.80
Post Project Totals	2.28	9.39	4.31	9.49	19.21	59.89	7.45	32.59	11.44	39.86	1.06	4.32	9.08E-05	3.98E-04	0.58	1.51	22,524.38	98,656.82
Changes to Potential to Emit	**0.26**	**0.49**	**2.29**	**0.59**	**6.23**	**3.03**	**7.34**	**32.10**	**4.34**	**8.71**	**0.33**	**1.12**	**3.90E-06**	**1.70E-05**	**0.25**	**0.09**	**1,588.14**	**6,956.02**

AgroFarma Twin Falls - Chobani New Facility Baseline Emission Estimate Summary

Emissions Unit Name	Stack ID	PM_{10}[1]		$PM_{2.5}$[1]		NOx		SO_2		CO		VOC		Lead		HAPs		GHGs - CO2e	
		lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	ton/year	lb/hour	Short ton/year
Cleaver Brooks CBLE-700-800 NG Boiler 1	BOILER1	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 2	BOILER2	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 3	BOILER3	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 4	BOILER4	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 5	BOILER5	0.33	1.45	0.33	1.45	2.32	10.16	0.02	0.09	1.18	5.17	0.13	0.57	1.60E-05	7.01E-05	0.06	0.26	3851.20	16,868.24
Calorix Dual Gas Boiler	BOILER6	0.06	0.30	0.06	0.30	0.39	1.70	3.95	17.30	0.66	2.90	0.04	0.20	3.92E-06	1.72E-05	0.01	0.06	938.17	4,109.19
Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired)	BRMAU 1	0.03	0.13	0.03	0.13	0.35	1.53	0.002	0.01	0.30	1.31	0.02	0.09	1.76E-06	7.71E-06	0.01	0.03	423.01	1,852.79
Lab MAU - Aaron RN-050 (6,000 cfm, indirect fired RTU)	LABMAU	0.01	0.04	0.01	0.04	0.08	0.35	0.0005	0.002	0.07	0.31	0.004	0.02	3.97E-07	1.74E-06	1.51E-03	0.01	95.52	418.36
Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired)	BATTMAU	0.03	0.13	0.03	0.13	0.35	1.53	0.002	0.01	0.30	1.31	0.02	0.09	1.76E-06	7.71E-06	0.01	0.03	423.01	1,852.79
Main Office RTU 1 - Carrier 48A5,T,030 (indirect fired)	RTU1	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 2 - Carrier 48A5,T,030 (indirect fired)	RTU2	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 3 - Carrier 48A5,T,030 (indirect fired)	RTU3	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 4 - Carrier 48A5,T,030 (indirect fired)	RTU4	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU5	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	2.57E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU6	0.004	0.02	0.004	0.02	0.05	0.22	0.0003	0.0014	0.04	0.18	0.003	0.01	1.72E-07	1.13E-06	9.72E-04	4.27E-03	61.94	271.31
Meeting/RR/Plant Offices/Maintenance Office RTU - Carrier 48A5,S,020 (indirect fired)	PLANT	0.003	0.01	0.003	0.01	0.03	0.13	0.0002	0.0009	0.03	0.13	0.002	0.01	1.72E-07	7.53E-07	6.47E-04	2.83E-03	41.26	180.70
Maintenance/Parts/Fab RTU - Carrier 48A5,S,060 (indirect fired)	MAINT	0.01	0.04	0.01	0.04	0.11	0.48	0.0007	0.003	0.10	0.44	0.01	0.04	5.71E-07	2.50E-06	2.15E-03	0.01	137.24	601.10
Reznor VR-2---60 Receiving Bay IRH 1	IRH1	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 2	IRH2	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 3	IRH3	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 4	IRH4	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 5	IRH5	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 6	IRH6	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 7	IRH7	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
Reznor VR-2---60 Receiving Bay IRH 8	IRH8	0.001	0.01	0.001	0.01	0.02	0.09	0.0001	0.0005	0.02	0.09	0.001	0.0047	9.80E-08	4.29E-07	3.70E-04	1.63E-03	23.57	103.25
8 One Cell Cooling Towers	CT01-CT8	0.25	1.10	0.25	1.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anhydrous Ammonia Refrigeration System (8 Chillers)	REFRIG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flare	FLARE	0.04	0.18	0.04	0.18	0.24	1.05	3.38	14.80	1.30	5.69	0.21	0.92			0.21	0.03	575.97	2,522.73
Emergency Generator 1	GEN1	0.11	0.01	2.14	0.11	2.14	0.11	0.01	5.00E-04	1.86	0.09	0.04	0.002	--	--	0.01	1.00E-03	36.61	160.33
Emergency Generator 2	GEN2	0.05	0.003	0.05	0.003	3.46	0.17	0.006	2.80E-04	0.52	0.03	0.04	0.002	--	--	1.50E-02	7.44E-04	37.39	163.77
Post Project Totals		**2.28**	**9.39**	**4.31**	**9.49**	**19.21**	**59.89**	**7.45**	**32.59**	**11.44**	**39.86**	**1.06**	**4.32**	**9.08E-05**	**3.98E-04**	**0.58**	**1.51**	**22,524.38**	**98,656.82**

[1]Assumes $PM_{2.5}$ and PM_{10} emissions are equal to PM emissions.

AgroFarma Twin Falls - Chobani Pre and Post Project Potential to Emit for Non-Carcinogenic and Carcinogenic Toxic Air Pollutants

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24 Hour Average Emission Rates (lb/hour)	Post Project 24 Hour Average Emission Rates (lb/hour)	Change in 24 Hour Average Emission Rates (lb/hour)	Screening Level	Exceeds Screening Level (Y/N)
Ammonia	0.00E+00	4.00E-02	4.00E-02	1.2	No
Acrolein	0.00E+00	7.33E-04	7.33E-04	0.017	No
Pentane	4.50E-01	6.16E-04	-4.49E-01	1.18E+02	No
Hexane	2.68E-01	3.26E-01	5.80E-02	1.20E+01	No
Hydrogen Sulfide	0.00E+00	2.00E-01	2.00E-01	9.33E-01	No
Toluene	5.90E-04	3.86E-03	3.27E-03	2.50E+01	No
Cobalt	1.45E-05	1.52E-05	7.00E-07	3.30E-03	No
Manganese	6.57E-05	6.87E-05	3.00E-06	6.70E-02	No
Molybdenum	1.90E-04	1.98E-04	8.00E-06	3.33E-01	No
Selenium	4.14E-06	4.33E-06	1.90E-07	1.30E-02	No
Vanadium	3.97E-04	4.15E-04	1.80E-05	3.00E-03	No
Xylenes	0.00E+00	2.26E-03	2.26E-03	2.90E+01	No
Zinc	5.00E-03	5.23E-03	2.30E-04	3.33E-01	No
Barium	7.60E-04	7.94E-04	3.40E-05	3.30E-02	No
Copper	1.47E-04	1.53E-04	6.00E-06	1.30E-02	No

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emission Rates (lb/hour)	Post Project Annual Average Emission Rates (lb/hour)	Change in Annual Average Emission Rates (lb/hour)	Screening Level	Exceeds Screening Level (Y/N)
Acetaldehyde	0.00E+00	6.08E-03	6.08E-03	3.00E-03	Yes
Benzene	3.64E-04	8.74E-03	8.38E-03	8.00E-04	Yes
1,3-Butadiene	0.00E+00	3.10E-04	3.10E-04	2.40E-05	Yes
3-Methylchloranthrene	3.12E-07	3.26E-07	1.40E-08	2.50E-06	No
Benzo(a)pyrene*	2.08E-07	2.17E-07	9.00E-09	2.00E-06	No
Formaldehyde	1.30E-02	2.98E-02	1.68E-02	5.10E-04	Yes
POM (7-PAH)[4]	1.99E-06	2.08E-06	9.00E-08	2.00E-06	Yes
PAH	0.00E+00	1.12E-04	1.12E-04	9.10E-05	Yes
Arsenic	3.46E-05	3.62E-05	1.60E-06	1.50E-06	Yes
Nickel	3.64E-04	3.80E-04	1.60E-05	2.75E-05	Yes
Beryllium	2.08E-06	2.17E-06	9.00E-08	2.80E-05	No
Cadmium	1.90E-04	1.99E-04	9.00E-06	3.70E-06	Yes
Chromium	2.42E-04	2.53E-04	1.10E-05	3.30E-02	No
Naphthalene	1.06E-04	1.49E-04	4.30E-05	9.10E-05	Yes

AgroFarma Twin Falls - Chobani Facility Baseline Emission Estimate Summary

Toxic Air Pollutant Emissions Inventory

Non-Carcinogenic Toxic Air Pollutants (sum of all emissions)	Ammonia	Acrolien	Pentane	Hexane	Hydrogen Sulfide	Naphthalene (Carcinogen)	Toluene	Cobalt	Manganese	Molybdenum	Selenium	Vanadium	Xylenes	Zinc	Barium	Copper
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Cleaver Brooks Boiler 1	--		8.32E-02	5.76E-02		1.95E-05	1.09E-04	2.69E-06	1.22E-05	3.52E-05	7.68E-07	7.36E-05		9.28E-04	1.41E-04	2.72E-05
Cleaver Brooks Boiler 2	--		8.32E-02	5.76E-02		1.95E-05	1.09E-04	2.69E-06	1.22E-05	3.52E-05	7.68E-07	7.36E-05		9.28E-04	1.41E-04	2.72E-05
Cleaver Brooks Boiler 3	--		8.32E-02	5.76E-02		1.95E-05	1.09E-04	2.69E-06	1.22E-05	3.52E-05	7.68E-07	7.36E-05		9.28E-04	1.41E-04	2.72E-05
Cleaver Brooks Boiler 4	--		8.32E-02	5.76E-02		1.95E-05	1.09E-04	2.69E-06	1.22E-05	3.52E-05	7.68E-07	7.36E-05		9.28E-04	1.41E-04	2.72E-05
Cleaver Brooks Boiler 5	--		8.32E-02	5.76E-02		1.95E-05	1.09E-04	2.69E-06	1.22E-05	3.52E-05	7.68E-07	7.36E-05		9.28E-04	1.41E-04	2.72E-05
Calorix Boiler 6	1.89E-02		2.03E-02	1.40E-02		4.76E-06	2.65E-05	6.55E-07	2.96E-06	8.58E-06	1.87E-07	1.79E-05		2.26E-04	3.43E-05	6.63E-06
Boiler Room MAU 1	--		9.15E-03	6.34E-03		2.15E-06	1.20E-05	2.96E-07	1.34E-06	3.87E-06	8.45E-08	8.10E-06		1.02E-04	1.55E-05	2.99E-06
Lab MAU	--		2.06E-03	1.43E-03		4.84E-07	2.70E-06	6.67E-08	3.02E-07	8.73E-07	1.91E-08	1.83E-06		2.30E-05	3.49E-06	6.75E-07
Battery MAU	--		9.15E-03	6.34E-03		2.15E-06	1.20E-05	2.96E-07	1.34E-06	3.87E-06	8.45E-08	8.10E-06		1.02E-04	1.55E-05	2.99E-06
Main Office RTU 1	--		1.34E-03	9.27E-04		3.14E-07	1.75E-06	4.33E-08	1.96E-07	5.67E-07	1.24E-08	1.18E-06		1.49E-05	2.27E-06	4.38E-07
Main Office RTU 2	--		1.34E-03	9.27E-04		3.14E-07	1.75E-06	4.33E-08	1.96E-07	5.67E-07	1.24E-08	1.18E-06		1.49E-05	2.27E-06	4.38E-07
Main Office RTU 3	--		1.34E-03	9.27E-04		3.14E-07	1.75E-06	4.33E-08	1.96E-07	5.67E-07	1.24E-08	1.18E-06		1.49E-05	2.27E-06	4.38E-07
Main Office RTU 4	--		1.34E-03	9.27E-04		3.14E-07	1.75E-06	4.33E-08	1.96E-07	5.67E-07	1.24E-08	1.18E-06		1.49E-05	2.27E-06	4.38E-07
Main Office RTU 5	--		1.34E-03	9.27E-04		3.14E-07	1.75E-06	4.33E-08	1.96E-07	5.67E-07	1.24E-08	1.18E-06		1.49E-05	2.27E-06	4.38E-07
Main Office RTU 6	--		1.34E-03	9.27E-04		3.14E-07	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.00E+00	0.00E+00
Meeting/RR/Plant Offices/Maintenance Office RTU	--		8.92E-04	6.17E-04		2.09E-07	1.17E-06	2.88E-08	1.30E-07	3.77E-07	8.23E-09	7.89E-07		9.95E-06	1.51E-06	2.92E-07
Maintenance/Parts/Fab RTU	--		8.92E-04	6.17E-04		2.09E-07	1.17E-06	2.88E-08	1.30E-07	3.77E-07	8.23E-09	7.89E-07		9.95E-06	1.51E-06	2.92E-07
Receiving Bay IRH 1	--		5.10E-04	3.53E-04		1.20E-07	6.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.00E+00	0.00E+00
Receiving Bay IRH 2	--		5.10E-04	3.53E-04		1.20E-07	6.66E-07	1.65E-08	7.45E-08	2.16E-07	4.70E-09	4.51E-07		5.68E-06	8.62E-07	1.67E-07
Receiving Bay IRH 3	--		5.10E-04	3.53E-04		1.20E-07	6.66E-07	1.65E-08	7.45E-08	2.16E-07	4.70E-09	4.51E-07		5.68E-06	8.62E-07	1.67E-07
Receiving Bay IRH 4	--		5.10E-04	3.53E-04		1.20E-07	6.66E-07	1.65E-08	7.45E-08	2.16E-07	4.70E-09	4.51E-07		5.68E-06	8.62E-07	1.67E-07
Receiving Bay IRH 5	--		5.10E-04	3.53E-04		1.20E-07	6.66E-07	1.65E-08	7.45E-08	2.16E-07	4.70E-09	4.51E-07		5.68E-06	8.62E-07	1.67E-07
Receiving Bay IRH 6	--		5.10E-04	3.53E-04		1.20E-07	6.66E-07	1.65E-08	7.45E-08	2.16E-07	4.70E-09	4.51E-07		5.68E-06	8.62E-07	1.67E-07
Receiving Bay IRH 7	--		5.10E-04	3.53E-04		1.20E-07	6.66E-07	1.65E-08	7.45E-08	2.16E-07	4.70E-09	4.51E-07		5.68E-06	8.62E-07	1.67E-07
Receiving Bay IRH 8	--		5.10E-04	3.53E-04		1.20E-07	6.66E-07	1.65E-08	7.45E-08	2.16E-07	4.70E-09	4.51E-07		5.68E-06	8.62E-07	1.67E-07
Anhydrous Ammonia Refrigeration System (11 Chillers)[a]	2.23		--	--		--	--	--	--	--	--	--		--	--	--
Flare	0.02				2.00E-01											
Emergency Generator 1		3.63E-04				1.89E-05	1.60E-03						1.12E-03			
Emergency Generator 2		3.70E-04				1.94E-05	1.64E-03						1.14E-03			
Total Emissions Rate	**0.04**	**7.33E-04**	**6.16E-04**	**3.26E-01**	**2.00E-01**	**1.49E-04**	**3.86E-03**	**1.52E-05**	**6.87E-05**	**1.98E-04**	**4.33E-06**	**4.15E-04**	**2.26E-03**	**5.23E-03**	**7.94E-04**	**1.53E-04**
IDAPA 58.01.01.585 Screening Emission Level	1.2	0.017	1.18E+02	1.20E+01	9.33E-01	9.10E-05	2.50E+01	3.30E-03	6.70E-02	3.33E-01	1.30E-02	3.00E-03	2.90E+01	3.33E-01	3.30E-02	1.30E-02
Exceeds Screening Level?	Below	Below	Below	Below	Below	Exceeds	Below	Below	Below	Below	Below	Below	Below	Below	Below	Below

[a]Emissions from the anhydrous ammonia refrigeration system are not included, as under normal operations, the system will not relase emissions to the amibient air. In the event of a system backup, an instantaneous release would occur from a pressure relase valve. Therefore, as ammonia is only released from the anhydrous ammonia refrigeration system, it will not require dispersion modeling. It is not included in the screening level comparison for modeling.

AgroFarma Twin Falls - Chobani Facility Baseline Emission Estimate Summary

Toxic Air Pollutant Emissions Inventory

Carcinogenic Toxic Air Pollutants (sum of all emissions)	Acetaldehyde	Benzene	1,3-Butadiene	3-Methylchloranthrene	Benzo(a)pyrene*	Formaldehyde	POM (7-PAH)[4]	PAH	Arsenic	Nickel	Beryllium	Cadmium	Chromium
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Cleaver Brooks Boiler 1		6.72E-05		5.76E-08	3.84E-08	2.40E-03	3.65E-07		6.40E-06	6.72E-05	3.84E-07	3.52E-05	4.48E-05
Cleaver Brooks Boiler 2		6.72E-05		5.76E-08	3.84E-08	2.40E-03	3.65E-07		6.40E-06	6.72E-05	3.84E-07	3.52E-05	4.48E-05
Cleaver Brooks Boiler 3		6.72E-05		5.76E-08	3.84E-08	2.40E-03	3.65E-07		6.40E-06	6.72E-05	3.84E-07	3.52E-05	4.48E-05
Cleaver Brooks Boiler 4		6.72E-05		5.76E-08	3.84E-08	2.40E-03	3.65E-07		6.40E-06	6.72E-05	3.84E-07	3.52E-05	4.48E-05
Cleaver Brooks Boiler 5		6.72E-05		5.76E-08	3.84E-08	2.40E-03	3.65E-07		6.40E-06	6.72E-05	3.84E-07	3.52E-05	4.48E-05
Calorix Boiler 6		3.42E-05		1.40E-08	9.36E-09	5.85E-04	8.87E-08	2.36E-06	1.56E-06	1.64E-05	9.36E-08	8.58E-06	1.09E-05
Boiler Room MAU 1		7.39E-06		6.34E-09	4.22E-09	2.64E-04	4.44E-08		7.04E-07	7.39E-06	4.22E-08	3.87E-06	4.93E-06
Lab MAU		1.67E-06		1.43E-09	9.53E-10	5.96E-05	1.00E-08		1.59E-07	1.67E-06	9.53E-09	8.73E-07	1.11E-06
Battery MAU		7.39E-06		6.34E-09	4.22E-09	2.64E-04	4.44E-08		7.04E-07	7.39E-06	4.22E-08	3.87E-06	4.93E-06
Main Office RTU 1		1.08E-06		9.27E-10	6.18E-10	3.86E-05	6.49E-09		1.03E-07	1.08E-06	6.18E-09	5.67E-07	7.21E-07
Main Office RTU 2		1.08E-06		9.27E-10	6.18E-10	3.86E-05	6.49E-09		1.03E-07	1.08E-06	6.18E-09	5.67E-07	7.21E-07
Main Office RTU 3		1.08E-06		9.27E-10	6.18E-10	3.86E-05	6.49E-09		1.03E-07	1.08E-06	6.18E-09	5.67E-07	7.21E-07
Main Office RTU 4		1.08E-06		9.27E-10	6.18E-10	3.86E-05	6.49E-09		1.03E-07	1.08E-06	6.18E-09	5.67E-07	7.21E-07
Main Office RTU 5		1.08E-06		9.27E-10	6.18E-10	3.86E-05	6.49E-09		1.03E-07	1.08E-06	6.18E-09	5.67E-07	7.21E-07
Main Office RTU 6		1.08E-06		9.27E-10	6.18E-10	3.86E-05	6.49E-09		1.03E-07	1.08E-06	6.18E-09	5.67E-07	7.21E-07
Meeting/RR/Plant Offices/Maintenance Office RTU		7.20E-07		6.17E-10	4.12E-10	2.57E-05	4.32E-09		6.86E-08	7.20E-07	4.12E-09	3.77E-07	4.80E-07
Maintenance/Parts/Fab RTU		7.20E-07		6.17E-10	4.12E-10	2.57E-05	4.32E-09		6.86E-08	7.20E-07	4.12E-09	3.77E-07	4.80E-07
Receiving Bay IRH 1		4.12E-07		3.53E-10	2.35E-10	1.47E-05	2.47E-09		3.92E-08	4.12E-07	2.35E-09	2.16E-07	2.74E-07
Receiving Bay IRH 2		4.12E-07		3.53E-10	2.35E-10	1.47E-05	2.47E-09		3.92E-08	4.12E-07	2.35E-09	2.16E-07	2.74E-07
Receiving Bay IRH 3		4.12E-07		3.53E-10	2.35E-10	1.47E-05	2.47E-09		3.92E-08	4.12E-07	2.35E-09	2.16E-07	2.74E-07
Receiving Bay IRH 4		4.12E-07		3.53E-10	2.35E-10	1.47E-05	2.47E-09		3.92E-08	4.12E-07	2.35E-09	2.16E-07	2.74E-07
Receiving Bay IRH 5		4.12E-07		3.53E-10	2.35E-10	1.47E-05	2.47E-09		3.92E-08	4.12E-07	2.35E-09	2.16E-07	2.74E-07
Receiving Bay IRH 6		4.12E-07		3.53E-10	2.35E-10	1.47E-05	2.47E-09		3.92E-08	4.12E-07	2.35E-09	2.16E-07	2.74E-07
Receiving Bay IRH 7		4.12E-07		3.53E-10	2.35E-10	1.47E-05	2.47E-09		3.92E-08	4.12E-07	2.35E-09	2.16E-07	2.74E-07
Receiving Bay IRH 8		4.12E-07		3.53E-10	2.35E-10	1.47E-05	2.47E-09		3.92E-08	4.12E-07	2.35E-09	2.16E-07	2.74E-07
Ammonia Refrigeration		–		–	–	–	–		–	–	–	–	–
Flare		9.38E-04				6.90E-03		8.26E-05					
Emergency Generator 1	3.01E-03	3.66E-03	1.53E-04			4.63E-03		1.35E-05					
Emergency Generator 2	3.07E-03	3.74E-03	1.57E-04			4.72E-03		1.37E-05					
Total Emissions Rate	**6.08E-03**	**8.74E-03**	**3.10E-04**	**3.26E-07**	**2.17E-07**	**2.98E-02**	**2.08E-06**	**1.12E-04**	**3.62E-05**	**3.80E-04**	**2.17E-06**	**1.99E-04**	**2.53E-04**
Carcinogenic Screening Emission Level 58.01.01.586	3.00E-03	8.00E-04	2.40E-05	2.50E-06	2.00E-06	5.10E-04	2.00E-06	9.10E-05	1.50E-06	2.75E-05	2.80E-05	3.70E-06	3.30E-02
Exceeds Screening Level?	Exceed	Exceed	Exceed	Below	Below	Exceed	Exceed	Exceed	Exceed	Exceed	Below	Exceed	Below

AgroFarma Twin Falls - Chobani Facility Baseline Emission Estimate Summary
Hazardous Air Pollutant Emissions Inventory

HAP Pollutants	CAS No.	PTE (tons/year)
Benzene	71-43-2	6.23E-03
1,3-Butadiene	106-99-0	1.55E-05
3-Methylchloranthrene	56-49-5	1.43E-06
Benzo(a)pyrene*	50-32-8	1.03E-06
Formaldehyde	50-00-0	0.09
Hexane	110-54-3	1.43
Naphthalene	91-20-3	4.87E-04
Toluene	108-88-3	2.87E-03
2-Methylnapthalene	97-57-6	1.83E-05
7, 12 - Dimethylbenz(a)anthracene		1.22E-05
Acenaphthene	83-32-9	1.37E-06
Acenaphyhylene	203-96-8	1.37E-06
Acetaldehyde	75-07-0	3.05E-04
Acrolein	107-02-8	3.67E-05
Anthracene	120-12-7	1.83E-06
Dichlorobenzene	25321-22-6	9.13E-04
Flouranthene	206-44-0	2.28E-06
Fluorene	86-73-7	2.13E-06
Phenanthrene	85-01-8	1.29E-05
Xylenes	1330-20-7	1.13E-04
Benzo(a)anthracene*	56-55-3	2.10E-06
Benzo(b)fluoranthene*	205-82-3	1.47E-06
Benzo(g,h,i)perylene	191-24-2	1.11E-06
Benzo(k)fluoranthene*	205-82-3	1.49E-06
Chrysene*	218-01-9	1.57E-06
Dibenzo(a,h)anthracene*	53-70-3	1.19E-06
Indeno(1,2,3-cd)pyrene*	193-39-5	1.58E-06
Metals		
Mercury	7439-97-6	2.07E-04
Arsenic	7440-38-2	1.59E-04
Nickel	7440-02-0	1.67E-03
Beryllium	7440-41-7	9.54E-06
Cadmium	7440-43-9	8.75E-04
Chromium	7440-47-3	1.11E-03
Cobalt	7440-48-4	6.70E-05
Manganese	7439-96-5	3.02E-04
Molybdenum	7439-98-7	8.75E-04
Selenium	7782-49-2	1.91E-05
Total		**1.54**

AgroFarma Twin Falls - Chobani Facility Baseline Emission Estimate Summary
GHGs Pollutants

Criteria Pollutants Emissions Unit Name	Stack ID	CO_2 Metric Tons/Yr	CO_2 Short Tons/Yr	N_2O Metric Tons/Yr	N_2O Short Tons/Yr	CH_4 Metric Tons/Yr	CH_4 Short Tons/Yr	CO2e Metric Tons/Yr	CO2e Short Tons/Yr
Cleaver Brooks CBLE-700-800 NG Boiler 1	BOILER1	15287.79	16851.73	2.88E-02	3.18E-02	2.88E-01	3.18E-01	15,302.77	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 2	BOILER2	15287.79	16851.73	2.88E-02	3.18E-02	2.88E-01	3.18E-01	15,302.77	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 3	BOILER3	15287.79	16851.73	2.88E-02	3.18E-02	2.88E-01	3.18E-01	15,302.77	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 4	BOILER4	15287.79	16851.73	2.88E-02	3.18E-02	2.88E-01	3.18E-01	15,302.77	16,868.24
Cleaver Brooks CBLE-700-800 NG Boiler 5	BOILER5	15287.79	16851.73	2.88E-02	3.18E-02	2.88E-01	3.18E-01	15,302.77	16,868.24
Calorix Boiler	BOILER6	3724.19	4,105.17	2.74E-02	3.02E-02	1.39E-01	7.74E-02	3,727.84	4,109.19
Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired)	BRMAU1	1679.23	1851.02	3.17E-03	3.49E-03	3.00E-02	3.31E-02	1,680.84	1,852.79
Lab MAU - Aaon RN-050 (6,000 cfm, indirect fired RTU)	LABMAU	379.10	417.88	7.15E-04	7.88E-04	1.00E-02	1.10E-02	379.53	418.36
Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired)	BATTMAU	1679.23	1851.02	3.17E-03	3.49E-03	3.00E-02	3.31E-02	1,680.84	1,852.79
Main Office RTU 1 - Carrier 48A5,T,030 (indirect fired)	RTU1	245.89	271.04	4.64E-04	5.11E-04	4.64E-03	5.11E-03	246.13	271.31
Main Office RTU 2 - Carrier 48A5,T,030 (indirect fired)	RTU2	245.89	271.04	4.64E-04	5.11E-04	4.64E-03	5.11E-03	246.13	271.31
Main Office RTU 3 - Carrier 48A5,T,030 (indirect fired)	RTU3	245.89	271.04	4.64E-04	5.11E-04	4.64E-03	5.11E-03	246.13	271.31
Main Office RTU 4 - Carrier 48A5,T,030 (indirect fired)	RTU4	245.89	271.04	4.64E-04	5.11E-04	4.64E-03	5.11E-03	246.13	271.31
Main Office RTU 5 - Carrier 48A5,T,030 (indirect fired)	RTU5	245.89	271.04	4.64E-04	5.11E-04	4.64E-03	5.11E-03	246.13	271.31
Main Office RTU 6 - Carrier 48A5,T,030 (indirect fired)	RTU6	245.89	271.04	4.64E-04	5.11E-04	4.64E-03	5.11E-03	246.13	271.31
Meeting/RR/Plant Offices/Maintenance Office RTU Carrier 48A5,S,020 (Indirect fired RTU)	PLANT	163.77	180.52	3.09E-04	3.41E-04	3.09E-03	3.41E-03	163.93	180.70
Mantenance/Parts/Fab RTU Carrier 48A5,S,060 (Indirect fired RTU)	MAINT	544.78	600.51	1.03E-03	1.14E-03	1.00E-02	1.10E-02	545.31	601.10
Reznor VR-2---60 Receiveing Bay IRH 1	IRH1	93.58	103.15	1.77E-04	1.95E-04	1.77E-03	1.95E-03	93.67	103.25
Reznor VR-2---60 Receiveing Bay IRH 2	IRH2	93.58	103.15	1.77E-04	1.95E-04	1.77E-03	1.95E-03	93.67	103.25
Reznor VR-2---60 Receiveing Bay IRH 3	IRH3	93.58	103.15	1.77E-04	1.95E-04	1.77E-03	1.95E-03	93.67	103.25
Reznor VR-2---60 Receiveing Bay IRH 4	IRH4	93.58	103.15	1.77E-04	1.95E-04	1.77E-03	1.95E-03	93.67	103.25
Reznor VR-2---60 Receiveing Bay IRH 5	IRH5	93.58	103.15	1.77E-04	1.95E-04	1.77E-03	1.95E-03	93.67	103.25
Reznor VR-2---60 Receiveing Bay IRH 6	IRH6	93.58	103.15	1.77E-04	1.95E-04	1.77E-03	1.95E-03	93.67	103.25
Reznor VR-2---60 Receiveing Bay IRH 7	IRH7	93.58	103.15	1.77E-04	1.95E-04	1.77E-03	1.95E-03	93.67	103.25
Reznor VR-2---60 Receiveing Bay IRH 8	IRH8	93.58	103.15	1.77E-04	1.95E-04	1.77E-03	1.95E-03	93.67	103.25
Flare	FLARE	2277.13	2510.08	2.76E-02	3.04E-02	1.40E-01	1.54E-01	2288.61	2,522.73
Emergency Generator 1	GEN1	144.96	159.79	1.20E-03	1.32E-03	5.90E-03	6.50E-03	145.45	160.33
Emergency Generator 2	GEN2	148.07	163.22	1.20E-03	1.32E-03	6.00E-03	6.61E-03	148.08	163.77
	Total	89,403.39	98,549.30	0.21	0.24	1.86	1.97	89,500.42	98,656.82

Note: Cells highlighted in yellow are worst case between using Natural Gas vs Digester Gas and used to estimate total emissions

AgroFarma Twin Falls - Chobani Facilty Emission Estimates

MAUs (NG)

Annual Operation 8,760 hours/year

Criteria Pollutant	Emission Factor[1]	Unit	Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired) Input	Emission Rate	Emission Rate	Lab MAU - Aaon RN-050 (6,000 cfm, indirect fired RTU) Input	Emission Rate	Emission Rate	Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired) Input	Emission Rate	Emission Rate
			MMBTU/hr	(lb/hr)	(ton/yr)	MMBTU/hr	(lb/hr)	(ton/yr)	MMBTU/hr	(lb/hr)	(ton/yr)
Total Particulate Matter (PM)	7.6	lb/10^6SCF	3.587	0.03	0.13	0.810	0.01	0.04	3.587	0.03	0.13
Nitrogen Oxides (NOx)	100	lb/10^6SCF	3.587	0.35	1.53	0.810	0.08	0.35	3.587	0.35	1.53
Sulfur Dioxide (SO_2)	0.6	lb/10^6SCF	3.587	2.11E-03	9.24E-03	0.810	4.76E-04	2.08E-03	3.587	2.11E-03	9.24E-03
Carbon Monoxide (CO)	84	lb/10^6SCF	3.587	0.30	1.31	0.810	0.07	0.31	3.587	0.30	1.31
VOC	5.5	lb/10^6SCF	3.587	0.02	0.09	0.810	4.37E-03	1.91E-02	3.587	0.02	0.09
Lead	5.00E-04	lb/10^6SCF	3.587	1.76E-06	7.71E-06	0.810	3.97E-07	1.74E-06	3.587	1.76E-06	7.71E-06

Toxic Air Pollutants Non-metals [2]	CAS No.	CAA 112(b) HAP	EPA AP-42 Natural Gas Emission Factor	Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585/586 EL	Emission Rate vs. EL	Lab MAU - Aaon RN-050 (6,000 cfm, indirect fired RTU) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585/586 EL	Emission Rate vs. EL	Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585/586 EL	Emission Rate vs. EL
			(lb/10^6 scf)	10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/yr)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)	
Pentane	109-66-0	No	2.60E+00	3.52E-03	9.15E-03	4.01E-02	1.18E+02	Below	7.94E-04	2.06E-03	9.02E-03	1.18E+02	Below	3.52E-03	9.15E-03	4.01E-02	1.18E+02	Below
Benzene	71-43-2	Yes	2.10E-03	3.52E-03	7.39E-06	3.24E-05	8.00E-04	Below	7.94E-04	1.67E-06	7.31E-06	8.00E-04	Below	3.52E-03	7.39E-06	3.24E-05	8.00E-04	Below
3-Methylchloranthrene	56-49-5	Yes	1.80E-06	3.52E-03	6.34E-09	2.78E-08	2.50E-06	Below	7.94E-04	1.43E-09	6.26E-09	2.50E-06	Below	3.52E-03	6.34E-09	2.78E-08	2.50E-06	Below
Benzo(a)pyrene*	50-32-8	Yes	1.20E-06	3.52E-03	4.22E-09	1.85E-08	2.00E-06	Below	7.94E-04	9.53E-10	4.17E-09	2.00E-06	Below	3.52E-03	4.22E-09	1.85E-08	2.00E-06	Below
Formaldehyde	50-00-0	Yes	7.50E-02	3.52E-03	2.64E-04	1.16E-03	5.10E-04	Below	7.94E-04	5.96E-05	2.61E-04	5.10E-04	Below	3.52E-03	2.64E-04	1.16E-03	5.10E-04	Below
POM (7-PAH)[3]		Yes		3.52E-03	4.44E-08	1.95E-07	2.00E-06	Below	7.94E-04	1.00E-08	4.38E-08	2.00E-06	Below	3.52E-03	4.44E-08	1.95E-07	2.00E-06	Below
Hexane	110-54-3	Yes	1.80E+00	3.52E-03	6.34E-03	2.78E-02	1.20E+01	Below	7.94E-04	1.43E-03	6.26E-03	1.20E+01	Below	3.52E-03	6.34E-03	2.78E-02	1.20E+01	Below
Naphthalene	91-20-3	Yes	6.10E-04	3.52E-03	2.15E-06	9.42E-06	9.10E-05	Below	7.94E-04	4.84E-07	2.12E-06	9.10E-05	Below	3.52E-03	2.15E-06	9.42E-06	9.10E-05	Below
Toluene	108-88-3	Yes	3.40E-03	3.52E-03	1.20E-05	5.26E-05	2.50E+01	Below	7.94E-04	2.70E-06	1.18E-05	2.50E+01	Below	3.52E-03	1.20E-05	5.26E-05	2.50E+01	Below
2-Methylnapthalene	97-57-6	Yes	2.40E-05	3.52E-03	8.45E-08	3.70E-07			7.94E-04	1.91E-08	8.37E-08			3.52E-03	8.45E-08	3.70E-07		
7, 12 - Dimethylbenz(a)anthracene		Yes	1.60E-05	3.52E-03	5.63E-08	2.47E-07			7.94E-04	1.27E-08	5.56E-08			3.52E-03	5.63E-08	2.47E-07		
Acenaphthene	83-32-9	Yes	1.80E-06	3.52E-03	6.34E-09	2.78E-08			7.94E-04	1.43E-09	6.26E-09			3.52E-03	6.34E-09	2.78E-08		
Acenaphyhylene	203-96-8	Yes	1.80E-06	3.52E-03	6.34E-09	2.78E-08			7.94E-04	1.43E-09	6.26E-09			3.52E-03	6.34E-09	2.78E-08		
Anthracene	120-12-7	Yes	2.40E-06	3.52E-03	8.45E-09	3.70E-08			7.94E-04	1.91E-09	8.37E-09			3.52E-03	8.45E-09	3.70E-08		
Dichlorobenzene	25321-22-6	Yes	1.20E-03	3.52E-03	4.22E-06	1.85E-05			7.94E-04	9.53E-07	4.17E-06			3.52E-03	4.22E-06	1.85E-05		
Flouranthene	206-44-0	Yes	3.00E-06	3.52E-03	1.06E-08	4.64E-08			7.94E-04	2.38E-09	1.04E-08			3.52E-03	1.06E-08	4.64E-08		
Fluorene	86-73-7	Yes	2.80E-06	3.52E-03	9.86E-09	4.32E-08			7.94E-04	2.22E-09	9.72E-09			3.52E-03	9.86E-09	4.32E-08		
Phenanthrene	85-01-8	Yes	1.70E-05	3.52E-03	5.98E-08	2.62E-07			7.94E-04	1.35E-08	5.91E-08			3.52E-03	5.98E-08	2.62E-07		
Benzo(a)anthracene*	56-55-3	Yes	1.80E-06	3.52E-03	6.34E-09	2.78E-08			7.94E-04	1.43E-09	6.26E-09			3.52E-03	6.34E-09	2.78E-08		
Benzo(b)fluoranthene*	205-82-3	Yes	1.80E-06	3.52E-03	6.34E-09	2.78E-08			7.94E-04	1.43E-09	6.26E-09			3.52E-03	6.34E-09	2.78E-08		
Benzo(g,h,i)perylene	191-24-2	Yes	1.20E-06	3.52E-03	4.22E-09	1.85E-08			7.94E-04	9.53E-10	4.17E-09			3.52E-03	4.22E-09	1.85E-08		
Benzo(k)fluoranthene*	205-82-3	Yes	1.80E-06	3.52E-03	6.34E-09	2.78E-08			7.94E-04	1.43E-09	6.26E-09			3.52E-03	6.34E-09	2.78E-08		
Chrysene*	218-01-9	Yes	1.80E-06	3.52E-03	6.34E-09	2.78E-08			7.94E-04	1.43E-09	6.26E-09			3.52E-03	6.34E-09	2.78E-08		
Dibenzo(a,h)anthracene*	53-70-3	Yes	1.20E-06	3.52E-03	4.22E-09	1.85E-08			7.94E-04	9.53E-10	4.17E-09			3.52E-03	4.22E-09	1.85E-08		
Indeno(1,2,3-cd)pyrene*	193-39-5	Yes	1.80E-06	3.52E-03	6.34E-09	2.78E-08			7.94E-04	1.43E-09	6.26E-09			3.52E-03	6.34E-09	2.78E-08		

Toxic Air Pollutants Metals [4]	CAS Number	CAA 112(b) HAP	Emission Factor	Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585/586 EL	Emission Rate vs. EL	Lab MAU - Aaon RN-050 (6,000 cfm, indirect fired RTU) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585/586 EL	Emission Rate vs. EL	Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585/586 EL	Emission Rate vs. EL
			(lb/10^6 scf)	10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)	
Mercury	7439-97-6	Yes	2.60E-04	3.52E-03	9.15E-07	4.01E-06			7.94E-04	2.06E-07	9.02E-07			3.52E-03	9.15E-07	4.01E-06		
Arsenic	7440-38-2	Yes	2.00E-04	3.52E-03	7.04E-07	3.08E-06	1.50E-06	Below	7.94E-04	1.59E-07	6.96E-07	1.50E-06	Below	3.52E-03	7.04E-07	3.08E-06	1.50E-06	Below
Nickel	7440-02-0	Yes	2.10E-03	3.52E-03	7.39E-06	3.24E-05	2.75E-05	Below	7.94E-04	1.67E-06	7.31E-06	2.75E-05	Below	3.52E-03	7.39E-06	3.24E-05	2.75E-05	Below
Beryllium	7440-41-7	Yes	1.20E-05	3.52E-03	4.22E-08	1.85E-07	2.80E-05	Below	7.94E-04	9.53E-09	4.17E-08	2.80E-05	Below	3.52E-03	4.22E-08	1.85E-07	2.80E-05	Below
Cadmium	7440-43-9	Yes	1.10E-03	3.52E-03	3.87E-06	1.70E-05	3.70E-06	Exceeds	7.94E-04	8.73E-07	3.82E-06	3.70E-06	Below	3.52E-03	3.87E-06	1.70E-05	3.70E-06	Exceeds
Chromium	7440-47-3	Yes	1.40E-03	3.52E-03	4.93E-06	2.16E-05	3.30E-02	Below	7.94E-04	1.11E-06	4.86E-06	3.30E-02	Below	3.52E-03	4.93E-06	2.16E-05	3.30E-02	Below
Cobalt	7440-48-4	Yes	8.40E-05	3.52E-03	2.96E-07	1.30E-06	3.30E-03	Below	7.94E-04	6.67E-08	2.92E-07	3.30E-03	Below	3.52E-03	2.96E-07	1.30E-06	3.30E-03	Below
Manganese	7439-96-5	Yes	3.80E-04	3.52E-03	1.34E-06	5.87E-06	6.70E-02	Below	7.94E-04	3.02E-07	1.32E-06	6.70E-02	Below	3.52E-03	1.34E-06	5.87E-06	6.70E-02	Below
Molybdenum	7439-98-7	Yes	1.10E-03	3.52E-03	3.87E-06	1.70E-05	3.33E-01	Below	7.94E-04	8.73E-07	3.82E-06	3.33E-01	Below	3.52E-03	3.87E-06	1.70E-05	3.33E-01	Below
Selenium	7782-49-2	Yes	2.40E-05	3.52E-03	8.45E-08	3.70E-07	1.30E-02	Below	7.94E-04	1.91E-08	8.37E-08	1.30E-02	Below	3.52E-03	8.45E-08	3.70E-07	1.30E-02	Below
Vanadium	1314-62-1	No	2.30E-03	3.52E-03	8.10E-06	3.55E-05	3.00E-03	Below	7.94E-04	1.83E-06	8.02E-06	3.00E-03	Below	3.52E-03	8.10E-06	3.55E-05	3.00E-03	Below
Zinc	7440-66-6	No	2.90E-02	3.52E-03	1.02E-04	4.47E-04	3.33E-01	Below	7.94E-04	2.30E-05	1.01E-04	3.33E-01	Below	3.52E-03	1.02E-04	4.47E-04	3.33E-01	Below
Barium	7440-39-3	No	4.40E-03	3.52E-03	1.55E-05	6.79E-05	3.30E-02	Below	7.94E-04	3.49E-06	1.53E-05	3.30E-02	Below	3.52E-03	1.55E-05	6.79E-05	3.30E-02	Below
Copper	7440-50-8	No	8.50E-04	3.52E-03	2.99E-06	1.31E-05	1.30E-02	Below	7.94E-04	6.75E-07	2.96E-06	1.30E-02	Below	3.52E-03	2.99E-06	1.31E-05	1.30E-02	Below
			Total Non-Metal HAPs		6.63E-03	2.91E-02			Total Non-Metal HAPs	1.50E-03	6.55E-03			Total Non-Metal HAPs	6.63E-03	2.91E-02		
			Total Metal HAPs		2.34E-05	1.03E-04			Total Metal HAPs	5.29E-06	2.31E-05			Total Metal HAPs	2.34E-05	1.03E-04		
			Total HAPs		0.01	0.03			Total HAPs	1.51E-03	0.01			Total HAPs	0.01	0.03		

Notes:

[1] Criteria Pollutant emission factors for small uncontrolled boilers as stated AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-1 and 1.4-2. PM emission factor is assumed to equal PM10.
Conversion Factor: 1020 BTU/SCF

[2] Toxic Air Pollutants emission factors from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3.

[3] Polycyclic Organic Matter (POM) is considered as one TAP consisting of benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, and benzo(a)pyrene. Compounds constituting POM are designated as *.

[4] Toxic Air Pollutant Metal emission factors from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4.

AgroFarma Twin Falls - Chobani Facilty Emission Estimates
MAUs (NG)
Annual Operation 8,760 hours/year

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Boiler Room MAU 1 - Rupp Air RAM 225 (50,000 cfm, direct fired) Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Lab MAU - Aaon RN-050 (6,000 cfm, indirect fired RTU) Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Battery MAU - Rupp Air RAM 222 (42,000 cfm, direct fired) Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)
CO_2	53.02	1.028E-03	40 CFR 98 Subpart C Equation C-1 Tier 1	3,517	30,808,920	1679.23	794	6,955,440	379.10	3,517	30,808,920	1679.23
N_2O	1.0E-04	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	3,517	30,808,920	3.17E-03	794	6,955,440	7.15E-04	3,517	30,808,920	3.17E-03
CH_4	1.0E-03	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	3,517	30,808,920	0.03	794	6,955,440	0.01	3,517	30,808,920	0.03
CO2e			40 CFR 98 Part A			1,680.84			379.53			1,680.84

Notes
[5]Eqn C-1: $CO_2 = 1 \times 10^{-3}$ x Fuel x HHV x EF
Fuel = Volume of fuel combusted per year, (SCF/Year)
EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)
HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)
1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[6]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3}$ x Fuel x HHV x EF
Fuel = Volume of fuel combusted per year, (SCF/Year)
EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)
HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)
1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)
Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 = 1.00
GWP CH_4 = 21.00
GWP N_2O = 310.00

AgroFarma Twin Falls - Chobani Faciltiy Emission Estimate
IRHs (NG)
Annual Operation 8,760 hours/year

Toxic Air Pollutants Non-metals [2]	CAS No.	CAA 112(b) HAP	EPA AP-42 Natural Gas Emission Factor (lb/10^6 scf)	Reznor VR-2—60 Receiveing Bay IRH 1 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL	Reznor VR-2—60 Receiveing Bay IRH 2 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL	Reznor VR-2—60 Receiveing Bay IRH 3 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/yr)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL
Pentane	109-66-0	No	2.60E+00	1.96E-04	5.10E-04	2.23E-03	1.18E+02	Below	1.96E-04	5.10E-04	2.23E-03	1.18E+02	Below	1.96E-04	5.10E-04	2.23E-03	1.18E+02	Below
Benzene	71-43-2	Yes	2.10E-03	1.96E-04	4.12E-07	1.80E-06	8.00E-04	Below	1.96E-04	4.12E-07	1.80E-06	8.00E-04	Below	1.96E-04	4.12E-07	1.80E-06	8.00E-04	Below
3-Methylchloranthrene	56-49-5	Yes	1.80E-06	1.96E-04	3.53E-10	1.55E-09	2.50E-06	Below	1.96E-04	3.53E-10	1.55E-09	2.50E-06	Below	1.96E-04	3.53E-10	1.55E-09	2.50E-06	Below
Benzo(a)pyrene*	50-32-8	Yes	1.20E-06	1.96E-04	2.35E-10	1.03E-09	2.00E-06	Below	1.96E-04	2.35E-10	1.03E-09	2.00E-06	Below	1.96E-04	2.35E-10	1.03E-09	2.00E-06	Below
Formaldehyde	50-00-0	Yes	7.50E-02	1.96E-04	1.47E-05	6.44E-05	5.10E-04	Below	1.96E-04	1.47E-05	6.44E-05	5.10E-04	Below	1.96E-04	1.47E-05	6.44E-05	5.10E-04	Below
POM (7-PAH)[3]		Yes		1.96E-04	2.47E-09	1.08E-08	2.00E-06	Below	1.96E-04	2.47E-09	1.08E-08	2.00E-06	Below	1.96E-04	2.47E-09	1.08E-08	2.00E-06	Below
Hexane	110-54-3	Yes	1.80E+00	1.96E-04	3.53E-04	1.55E-03	1.20E+01	Below	1.96E-04	3.53E-04	1.55E-03	1.20E+01	Below	1.96E-04	3.53E-04	1.55E-03	1.20E+01	Below
Naphthalene	91-20-3	Yes	6.10E-04	1.96E-04	1.20E-07	5.26E-07	9.10E-05	Below	1.96E-04	1.20E-07	5.26E-07	9.10E-05	Below	1.96E-04	1.20E-07	5.26E-07	9.10E-05	Below
Toluene	108-88-3	Yes	3.40E-03	1.96E-04	6.66E-07	2.92E-06	2.50E+01	Below	1.96E-04	6.66E-07	2.92E-06	2.50E+01	Below	1.96E-04	6.66E-07	2.92E-06	2.50E+01	Below
2-Methylnapthalene	97-57-6	Yes	2.40E-05	1.96E-04	4.70E-09	2.06E-08			1.96E-04	4.70E-09	2.06E-08			1.96E-04	4.70E-09	2.06E-08		
7, 12 - Dimethylbenz(a)anthracene		Yes	1.60E-05	1.96E-04	3.14E-09	1.38E-08			1.96E-04	3.14E-09	1.38E-08			1.96E-04	3.14E-09	1.38E-08		
Acenaphthene	83-32-9	Yes	1.80E-06	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Acenaphyhylene	203-96-8	Yes	1.80E-06	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Anthracene	120-12-7	Yes	2.40E-06	1.96E-04	4.70E-10	2.06E-09			1.96E-04	4.70E-10	2.06E-09			1.96E-04	4.70E-10	2.06E-09		
Dichlorobenzene	25321-22-6	Yes	1.20E-03	1.96E-04	2.35E-07	1.03E-06			1.96E-04	2.35E-07	1.03E-06			1.96E-04	2.35E-07	1.03E-06		
Flouranthene	206-44-0	Yes	3.00E-06	1.96E-04	5.88E-10	2.58E-09			1.96E-04	5.88E-10	2.58E-09			1.96E-04	5.88E-10	2.58E-09		
Fluorene	86-73-7	Yes	2.80E-06	1.96E-04	5.49E-10	2.40E-09			1.96E-04	5.49E-10	2.40E-09			1.96E-04	5.49E-10	2.40E-09		
Phenanthrene	85-01-8	Yes	1.70E-05	1.96E-04	3.33E-09	1.46E-08			1.96E-04	3.33E-09	1.46E-08			1.96E-04	3.33E-09	1.46E-08		
Benzo(a)anthracene*	56-55-3	Yes	1.80E-06	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Benzo(b)fluoranthene*	205-82-3	Yes	1.80E-06	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Benzo(g,h,i)perylene	191-24-2	Yes	1.20E-06	1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09		
Benzo(k)fluoranthene*	205-82-3	Yes	1.80E-06	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Chrysene*	218-01-9	Yes	1.80E-06	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Dibenzo(a,h)anthracene*	53-70-3	Yes	1.20E-06	1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09		
Indeno(1,2,3-cd)pyrene*	193-39-5	Yes	1.80E-06	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		

Toxic Air Pollutants Metals [4]	CAS Number	CAA 112(b) HAP	Emission Factor (lb/10^6 scf)	Reznor VR-2—60 Receiveing Bay IRH 1 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL	Reznor VR-2—60 Receiveing Bay IRH 2 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL	Reznor VR-2—60 Receiveing Bay IRH 3 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/yr)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL
Mercury	7439-97-6	Yes	2.60E-04	1.96E-04	5.10E-08	2.23E-07			1.96E-04	5.10E-08	2.23E-07			1.96E-04	5.10E-08	2.23E-07		
Arsenic	7440-38-2	Yes	2.00E-04	1.96E-04	3.92E-08	1.72E-07	1.50E-06	Below	1.96E-04	3.92E-08	1.72E-07	1.50E-06	Below	1.96E-04	3.92E-08	1.72E-07	1.50E-06	Below
Nickel	7440-02-0	Yes	2.10E-03	1.96E-04	4.12E-07	1.80E-06	2.75E-05	Below	1.96E-04	4.12E-07	1.80E-06	2.75E-05	Below	1.96E-04	4.12E-07	1.80E-06	2.75E-05	Below
Beryllium	7440-41-7	Yes	1.20E-05	1.96E-04	2.35E-09	1.03E-08	2.80E-05	Below	1.96E-04	2.35E-09	1.03E-08	2.80E-05	Below	1.96E-04	2.35E-09	1.03E-08	2.80E-05	Below
Cadmium	7440-43-9	Yes	1.10E-03	1.96E-04	2.16E-07	9.46E-07	3.70E-06	Below	1.96E-04	2.16E-07	9.46E-07	3.70E-06	Below	1.96E-04	2.16E-07	9.46E-07	3.70E-06	Below
Chromium	7440-47-3	Yes	1.40E-03	1.96E-04	2.74E-07	1.20E-06	3.30E-02	Below	1.96E-04	2.74E-07	1.20E-06	3.30E-02	Below	1.96E-04	2.74E-07	1.20E-06	3.30E-02	Below
Cobalt	7440-48-4	Yes	8.40E-05	1.96E-04	1.65E-08	7.23E-08	3.30E-03	Below	1.96E-04	1.65E-08	7.23E-08	3.30E-03	Below	1.96E-04	1.65E-08	7.23E-08	3.30E-03	Below
Manganese	7439-96-5	Yes	3.80E-04	1.96E-04	7.45E-08	3.26E-07	6.70E-02	Below	1.96E-04	7.45E-08	3.26E-07	6.70E-02	Below	1.96E-04	7.45E-08	3.26E-07	6.70E-02	Below
Molybdenum	7439-98-7	Yes	1.10E-03	1.96E-04	2.16E-07	9.46E-07	3.33E-01	Below	1.96E-04	2.16E-07	9.46E-07	3.33E-01	Below	1.96E-04	2.16E-07	9.46E-07	3.33E-01	Below
Selenium	7782-49-2	Yes	2.40E-05	1.96E-04	4.70E-09	2.06E-08	1.30E-02	Below	1.96E-04	4.70E-09	2.06E-08	1.30E-02	Below	1.96E-04	4.70E-09	2.06E-08	1.30E-02	Below
Vanadium	1314-62-1	No	2.30E-03	1.96E-04	4.51E-07	1.98E-06	3.00E-03	Below	1.96E-04	4.51E-07	1.98E-06	3.00E-03	Below	1.96E-04	4.51E-07	1.98E-06	3.00E-03	Below
Zinc	7440-66-6	No	2.90E-02	1.96E-04	5.68E-06	2.49E-05	3.33E-01	Below	1.96E-04	5.68E-06	2.49E-05	3.33E-01	Below	1.96E-04	5.68E-06	2.49E-05	3.33E-01	Below
Barium	7440-39-3	No	4.40E-03	1.96E-04	8.62E-07	3.78E-06	3.30E-02	Below	1.96E-04	8.62E-07	3.78E-06	3.30E-02	Below	1.96E-04	8.62E-07	3.78E-06	3.30E-02	Below
Copper	7440-50-8	No	8.50E-04	1.96E-04	1.67E-07	7.31E-07	1.30E-02	Below	1.96E-04	1.67E-07	7.31E-07	1.30E-02	Below	1.96E-04	1.67E-07	7.31E-07	1.30E-02	Below
			Total Non-Metal HAPs		3.69E-04	1.62E-03			**Total Non-Metal HAPs**	3.69E-04	1.62E-03			**Total Non-I**	3.69E-04	1.62E-03		**Total I**
			Total Metal HAPs		1.31E-06	5.72E-06			**Total Metal HAPs**	1.31E-06	5.72E-06			**Total Metal**	1.31E-06	5.72E-06		**T**
			Total HAPs		3.70E-04	1.63E-03			**Total HAPs**	3.70E-04	1.63E-03			**Total HAPs**	3.70E-04	1.63E-03		

Notes:
[1] Criteria Pollutant emission factors for small uncontrolled boilers as stated AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-1 and 1.4-2. PM emission factor is assumed to equal PM10.
Conversion Factor: 1020 BTU/SCF
[2] Toxic Air Pollutants emission factors from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3.
[3] Polycyclic Organic Matter (POM) is considered as one TAP consisting of benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, and benzo(a)pyrene. Compounds constituting POM are designated as *.
[4] Toxic Air Pollutant Metal emission factors from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4.

AgroFarma Twin Falls - Chobani Facilty Emission Estimate

IRHs (NG)

Annual Operation 8,760 hours/year

Emission Unit	Input
	MMBTU/hr
Reznor VR-2---60 Receiveing Bay IRH 1	0.200
Reznor VR-2---60 Receiveing Bay IRH 2	0.200
Reznor VR-2---60 Receiveing Bay IRH 3	0.200
Reznor VR-2---60 Receiveing Bay IRH 4	0.200
Reznor VR-2---60 Receiveing Bay IRH 5	0.200
Reznor VR-2---60 Receiveing Bay IRH 6	0.200
Reznor VR-2---60 Receiveing Bay IRH 7	0.200
Reznor VR-2---60 Receiveing Bay IRH 8	0.200

		Reznor VR-2---60 Receiveing Bay IRH 1		Reznor VR-2---60 Receiveing Bay IRH 2		Reznor VR-2---60 Receiveing Bay IRH 3		Reznor VR-2---60 Receiveing Bay IRH 4		Reznor VR-2---60 Receiveing Bay IRH 5		Reznor VR-2---60 Receiveing Bay IRH 6		Reznor VR-2---60 Receiveing Bay IRH 7		Reznor VR-2---60 Receiveing Bay IRH 8	
Criteria Pollutant	**Emission Factor[1]**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**	**Emission Rate**
	lb/10^6SCF	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Total Particulate Matter (PM)	7.6	1.49E-03	0.01	1.49E-03	0.01	1.49E-03	0.01	1.49E-03	0.01	1.49E-03	0.01	1.49E-03	0.01	1.49E-03	0.01	1.49E-03	0.01
Nitrogen Oxides (NOx)	100	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09
Sulfur Dioxide (SO_2)	0.6	1.18E-04	5.17E-04	1.18E-04	5.17E-04	1.18E-04	5.17E-04	1.18E-04	5.17E-04	1.18E-04	5.17E-04	1.18E-04	5.17E-04	1.18E-04	5.17E-04	1.18E-04	5.17E-04
Carbon Monoxide (CO)	84	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09
VOC	5.5	1.08E-03	4.73E-03	1.08E-03	4.73E-03	1.08E-03	4.73E-03	1.08E-03	4.73E-03	1.08E-03	4.73E-03	1.08E-03	4.73E-03	1.08E-03	4.73E-03	1.08E-03	4.73E-03
Lead	5.00E-04	9.80E-08	4.29E-07	9.80E-08	4.29E-07	9.80E-08	4.29E-07	9.80E-08	4.29E-07	9.80E-08	4.29E-07	9.80E-08	4.29E-07	9.80E-08	4.29E-07	9.80E-08	4.29E-07

AgroFarma Twin Falls - Chobani Fac
IRHs (NG)
Annual Operation 8,760

Toxic Air Pollutants Non-metals [2]	CAS No.	Reznor VR-2---60 Receiveing Bay IRH 4 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL	Reznor VR-2---60 Receiveing Bay IRH 5 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL
Pentane	109-66-0	1.96E-04	5.10E-04	2.23E-03	1.18E+02	Below	1.96E-04	5.10E-04	2.23E-03	1.18E+02	Below
Benzene	71-43-2	1.96E-04	4.12E-07	1.80E-06	8.00E-04	Below	1.96E-04	4.12E-07	1.80E-06	8.00E-04	Below
3-Methylchloranthrene	56-49-5	1.96E-04	3.53E-10	1.55E-09	2.50E-06	Below	1.96E-04	3.53E-10	1.55E-09	2.50E-06	Below
Benzo(a)pyrene*	50-32-8	1.96E-04	2.35E-10	1.03E-09	2.00E-06	Below	1.96E-04	2.35E-10	1.03E-09	2.00E-06	Below
Formaldehyde	50-00-0	1.96E-04	1.47E-05	6.44E-05	5.10E-04	Below	1.96E-04	1.47E-05	6.44E-05	5.10E-04	Below
POM (7-PAH)[3]		1.96E-04	2.47E-09	1.08E-08	2.00E-06	Below	1.96E-04	2.47E-09	1.08E-08	2.00E-06	Below
Hexane	110-54-3	1.96E-04	3.53E-04	1.55E-03	1.20E+01	Below	1.96E-04	3.53E-04	1.55E-03	1.20E+01	Below
Naphthalene	91-20-3	1.96E-04	1.20E-07	5.26E-07	9.10E-05	Below	1.96E-04	1.20E-07	5.26E-07	9.10E-05	Below
Toluene	108-88-3	1.96E-04	6.66E-07	2.92E-06	2.50E+01	Below	1.96E-04	6.66E-07	2.92E-06	2.50E+01	Below
2-Methylnapthalene	97-57-6	1.96E-04	4.70E-09	2.06E-08			1.96E-04	4.70E-09	2.06E-08		
7, 12 - Dimethylbenz(a)anthracene		1.96E-04	3.14E-09	1.38E-08			1.96E-04	3.14E-09	1.38E-08		
Acenaphthene	83-32-9	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Acenaphyhylene	203-96-8	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Anthracene	120-12-7	1.96E-04	4.70E-10	2.06E-09			1.96E-04	4.70E-10	2.06E-09		
Dichlorobenzene	25321-22-6	1.96E-04	2.35E-07	1.03E-06			1.96E-04	2.35E-07	1.03E-06		
Flouranthene	206-44-0	1.96E-04	5.88E-10	2.58E-09			1.96E-04	5.88E-10	2.58E-09		
Fluorene	86-73-7	1.96E-04	5.49E-10	2.40E-09			1.96E-04	5.49E-10	2.40E-09		
Phenanthrene	85-01-8	1.96E-04	3.33E-09	1.46E-08			1.96E-04	3.33E-09	1.46E-08		
Benzo(a)anthracene*	56-55-3	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Benzo(b)fluoranthene*	205-82-3	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Benzo(g,h,i)perylene	191-24-2	1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09		
Benzo(k)fluoranthene*	205-82-3	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Chrysene*	218-01-9	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Dibenzo(a,h)anthracene*	53-70-3	1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09		
Indeno(1,2,3-cd)pyrene*	193-39-5	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		

Toxic Air Pollutants Metals [4]	CAS Number	Reznor VR-2---60 Receiveing Bay IRH 4 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL	Reznor VR-2---60 Receiveing Bay IRH 5 Input 10^6SCF/hr	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL
Mercury	7439-97-6	1.96E-04	5.10E-08	2.23E-07			1.96E-04	5.10E-08	2.23E-07		
Arsenic	7440-38-2	1.96E-04	3.92E-08	1.72E-07	1.50E-06	Below	1.96E-04	3.92E-08	1.72E-07	1.50E-06	Below
Nickel	7440-02-0	1.96E-04	4.12E-07	1.80E-06	2.75E-05	Below	1.96E-04	4.12E-07	1.80E-06	2.75E-05	Below
Beryllium	7440-41-7	1.96E-04	2.35E-09	1.03E-08	2.80E-05	Below	1.96E-04	2.35E-09	1.03E-08	2.80E-05	Below
Cadmium	7440-43-9	1.96E-04	2.16E-07	9.46E-07	3.70E-06	Below	1.96E-04	2.16E-07	9.46E-07	3.70E-06	**Below**
Chromium	7440-47-3	1.96E-04	2.74E-07	1.20E-06	3.30E-02	Below	1.96E-04	2.74E-07	1.20E-06	3.30E-02	Below
Cobalt	7440-48-4	1.96E-04	1.65E-08	7.23E-08	3.30E-03	Below	1.96E-04	1.65E-08	7.23E-08	3.30E-03	Below
Manganese	7439-96-5	1.96E-04	7.45E-08	3.26E-07	6.70E-02	Below	1.96E-04	7.45E-08	3.26E-07	6.70E-02	Below
Molybdenum	7439-98-7	1.96E-04	2.16E-07	9.46E-07	3.33E-01	Below	1.96E-04	2.16E-07	9.46E-07	3.33E-01	Below
Selenium	7782-49-2	1.96E-04	4.70E-09	2.06E-08	1.30E-02	Below	1.96E-04	4.70E-09	2.06E-08	1.30E-02	Below
Vanadium	1314-62-1	1.96E-04	4.51E-07	1.98E-06	3.00E-03	Below	1.96E-04	4.51E-07	1.98E-06	3.00E-03	Below
Zinc	7440-66-6	1.96E-04	5.68E-06	2.49E-05	3.33E-01	Below	1.96E-04	5.68E-06	2.49E-05	3.33E-01	Below
Barium	7440-39-3	1.96E-04	8.62E-07	3.78E-06	3.30E-02	Below	1.96E-04	8.62E-07	3.78E-06	3.30E-02	Below
Copper	7440-50-8	1.96E-04	1.67E-07	7.31E-07	1.30E-02	Below	1.96E-04	1.67E-07	7.31E-07	1.30E-02	Below
		Non-Metal HAPs	3.69E-04	1.62E-03			**Total Non-Metal HAPs**	3.69E-04	1.62E-03		Tot
		otal Metal HAPs	1.31E-06	5.72E-06			**Total Metal HAPs**	1.31E-06	5.72E-06		
		Total HAPs	3.70E-04	1.63E-03			**Total HAPs**	3.70E-04	1.63E-03		

AgroFarma Twin Falls - Chobani Fac
IRHs (NG)
Annual Operation 8,760

Toxic Air Pollutants Non-metals [2]	CAS No.	Reznor VR-2---60 Receiveing Bay IRH 6 Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Reznor VR-2---60 Receiveing Bay IRH 7 Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Reznor VR-2---60 Receiveing Bay IRH 8 Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL
		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/yr)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)	
Pentane	109-66-0	1.96E-04	5.10E-04	2.23E-03	1.18E+02	Below	1.96E-04	5.10E-04	2.23E-03	1.18E+02	Below	1.96E-04	5.10E-04	2.23E-03	1.18E+02	Below
Benzene	71-43-2	1.96E-04	4.12E-07	1.80E-06	8.00E-04	Below	1.96E-04	4.12E-07	1.80E-06	8.00E-04	Below	1.96E-04	4.12E-07	1.80E-06	8.00E-04	Below
3-Methylchloranthrene	56-49-5	1.96E-04	3.53E-10	1.55E-09	2.50E-06	Below	1.96E-04	3.53E-10	1.55E-09	2.50E-06	Below	1.96E-04	3.53E-10	1.55E-09	2.50E-06	Below
Benzo(a)pyrene*	50-32-8	1.96E-04	2.35E-10	1.03E-09	2.00E-06	Below	1.96E-04	2.35E-10	1.03E-09	2.00E-06	Below	1.96E-04	2.35E-10	1.03E-09	2.00E-06	Below
Formaldehyde	50-00-0	1.96E-04	1.47E-05	6.44E-05	5.10E-04	Below	1.96E-04	1.47E-05	6.44E-05	5.10E-04	Below	1.96E-04	1.47E-05	6.44E-05	5.10E-04	Below
POM (7-PAH)[3]		1.96E-04	2.47E-09	1.08E-08	2.00E-06	Below	1.96E-04	2.47E-09	1.08E-08	2.00E-06	Below	1.96E-04	2.47E-09	1.08E-08	2.00E-06	Below
Hexane	110-54-3	1.96E-04	3.53E-04	1.55E-03	1.20E+01	Below	1.96E-04	3.53E-04	1.55E-03	1.20E+01	Below	1.96E-04	3.53E-04	1.55E-03	1.20E+01	Below
Naphthalene	91-20-3	1.96E-04	1.20E-07	5.26E-07	9.10E-05	Below	1.96E-04	1.20E-07	5.26E-07	9.10E-05	Below	1.96E-04	1.20E-07	5.26E-07	9.10E-05	Below
Toluene	108-88-3	1.96E-04	6.66E-07	2.92E-06	2.50E+01	Below	1.96E-04	6.66E-07	2.92E-06	2.50E+01	Below	1.96E-04	6.66E-07	2.92E-06	2.50E+01	Below
2-Methylnapthalene	97-57-6	1.96E-04	4.70E-09	2.06E-08			1.96E-04	4.70E-09	2.06E-08			1.96E-04	4.70E-09	2.06E-08		
7, 12 - Dimethylbenz(a)anthracene		1.96E-04	3.14E-09	1.38E-08			1.96E-04	3.14E-09	1.38E-08			1.96E-04	3.14E-09	1.38E-08		
Acenaphthene	83-32-9	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Acenaphyhylene	203-96-8	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Anthracene	120-12-7	1.96E-04	4.70E-10	2.06E-09			1.96E-04	4.70E-10	2.06E-09			1.96E-04	4.70E-10	2.06E-09		
Dichlorobenzene	25321-22-6	1.96E-04	2.35E-07	1.03E-06			1.96E-04	2.35E-07	1.03E-06			1.96E-04	2.35E-07	1.03E-06		
Flouranthene	206-44-0	1.96E-04	5.88E-10	2.58E-09			1.96E-04	5.88E-10	2.58E-09			1.96E-04	5.88E-10	2.58E-09		
Fluorene	86-73-7	1.96E-04	5.49E-10	2.40E-09			1.96E-04	5.49E-10	2.40E-09			1.96E-04	5.49E-10	2.40E-09		
Phenanthrene	85-01-8	1.96E-04	3.33E-09	1.46E-08			1.96E-04	3.33E-09	1.46E-08			1.96E-04	3.33E-09	1.46E-08		
Benzo(a)anthracene*	56-55-3	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Benzo(b)fluoranthene*	205-82-3	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Benzo(g,h,i)perylene	191-24-2	1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09		
Benzo(k)fluoranthene*	205-82-3	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Chrysene*	218-01-9	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		
Dibenzo(a,h)anthracene*	53-70-3	1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09			1.96E-04	2.35E-10	1.03E-09		
Indeno(1,2,3-cd)pyrene*	193-39-5	1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09			1.96E-04	3.53E-10	1.55E-09		

Toxic Air Pollutants Metals [4]	CAS Number	Reznor VR-2---60 Receiveing Bay IRH 6 Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Reznor VR-2---60 Receiveing Bay IRH 7 Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Reznor VR-2---60 Receiveing Bay IRH 8 Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL
		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/yr)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)	
Mercury	7439-97-6	1.96E-04	5.10E-08	2.23E-07			1.96E-04	5.10E-08	2.23E-07			1.96E-04	5.10E-08	2.23E-07		
Arsenic	7440-38-2	1.96E-04	3.92E-08	1.72E-07	1.50E-06	Below	1.96E-04	3.92E-08	1.72E-07	1.50E-06	Below	1.96E-04	3.92E-08	1.72E-07	1.50E-06	Below
Nickel	7440-02-0	1.96E-04	4.12E-07	1.80E-06	2.75E-05	Below	1.96E-04	4.12E-07	1.80E-06	2.75E-05	Below	1.96E-04	4.12E-07	1.80E-06	2.75E-05	Below
Beryllium	7440-41-7	1.96E-04	2.35E-09	1.03E-08	2.80E-05	Below	1.96E-04	2.35E-09	1.03E-08	2.80E-05	Below	1.96E-04	2.35E-09	1.03E-08	2.80E-05	Below
Cadmium	7440-43-9	1.96E-04	2.16E-07	9.46E-07	3.70E-06	Below	1.96E-04	2.16E-07	9.46E-07	3.70E-06	Below	1.96E-04	2.16E-07	9.46E-07	3.70E-06	Below
Chromium	7440-47-3	1.96E-04	2.74E-07	1.20E-06	3.30E-02	Below	1.96E-04	2.74E-07	1.20E-06	3.30E-02	Below	1.96E-04	2.74E-07	1.20E-06	3.30E-02	Below
Cobalt	7440-48-4	1.96E-04	1.65E-08	7.23E-08	3.30E-03	Below	1.96E-04	1.65E-08	7.23E-08	3.30E-03	Below	1.96E-04	1.65E-08	7.23E-08	3.30E-03	Below
Manganese	7439-96-5	1.96E-04	7.45E-08	3.26E-07	6.70E-02	Below	1.96E-04	7.45E-08	3.26E-07	6.70E-02	Below	1.96E-04	7.45E-08	3.26E-07	6.70E-02	Below
Molybdenum	7439-98-7	1.96E-04	2.16E-07	9.46E-07	3.33E-01	Below	1.96E-04	2.16E-07	9.46E-07	3.33E-01	Below	1.96E-04	2.16E-07	9.46E-07	3.33E-01	Below
Selenium	7782-49-2	1.96E-04	4.70E-09	2.06E-08	1.30E-02	Below	1.96E-04	4.70E-09	2.06E-08	1.30E-02	Below	1.96E-04	4.70E-09	2.06E-08	1.30E-02	Below
Vanadium	1314-62-1	1.96E-04	4.51E-07	1.98E-06	3.00E-03	Below	1.96E-04	4.51E-07	1.98E-06	3.00E-03	Below	1.96E-04	4.51E-07	1.98E-06	3.00E-03	Below
Zinc	7440-66-6	1.96E-04	5.68E-06	2.49E-05	3.33E-01	Below	1.96E-04	5.68E-06	2.49E-05	3.33E-01	Below	1.96E-04	5.68E-06	2.49E-05	3.33E-01	Below
Barium	7440-39-3	1.96E-04	8.62E-07	3.78E-06	3.30E-02	Below	1.96E-04	8.62E-07	3.78E-06	3.30E-02	Below	1.96E-04	8.62E-07	3.78E-06	3.30E-02	Below
Copper	7440-50-8	1.96E-04	1.67E-07	7.31E-07	1.30E-02	Below	1.96E-04	1.67E-07	7.31E-07	1.30E-02	Below	1.96E-04	1.67E-07	7.31E-07	1.30E-02	Below
		al Non-Metal HAPs	3.69E-04	1.62E-03			**Total Non-Metal HAPs**	3.69E-04	1.62E-03			**Total Non-Metal HAPs**	3.69E-04	1.62E-03		
		Total Metal HAPs	1.31E-06	5.72E-06			**Total Metal HAPs**	1.31E-06	5.72E-06			**Total Metal HAPs**	1.31E-06	5.72E-06		
		Total HAPs	3.70E-04	1.63E-03			**Total HAPs**	3.70E-04	1.63E-03			**Total HAPs**	3.70E-04	1.63E-03		

AgroFarma Twin Falls - Chobani Faciltiy Emission Estimate

IRHs (NG)

Annual Operation 8,760 hours/year

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Reznor VR-2---60 Receiveing Bay IRH 1 Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Reznor VR-2---60 Receiveing Bay IRH 2 Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Reznor VR-2---60 Receiveing Bay IRH 3 Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Reznor VR-2---60 Receiveing Bay IRH 4 Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr	Reznor VR-2---60 Receiveing Bay IRH 5 Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] metric ton/y
CO_2	53.02	1.028E-03	40 CFR 98 Subpart C Equation C-1 Tier 1	196	1,716,960	93.58	196	1,716,960	93.58	196	1,716,960	93.58	196	1,716,960	93.58	196	1,716,960	93.58
N_2O	1.0E-04	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	196	1,716,960	1.77E-04	196	1,716,960	1.77E-04	196	1,716,960	1.77E-04	196	1,716,960	1.77E-04	196	1,716,960	1.77E-04
CH_4	1.0E-03	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	196	1,716,960	1.77E-03	196	1,716,960	1.77E-03	196	1,716,960	1.77E-03	196	1,716,960	1.77E-03	196	1,716,960	1.77E-03
CO2e			40 CFR 98 Part A			93.67			93.67			93.67			93.67			93.67

Notes

[5]Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[6]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)

Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 = 1.00

GWP CH_4 = 21.00

GWP N_2O = 310.00

AgroFarma Twin Falls - Chobani Fac
IRHs (NG)
Annual Operation 8,760

Green House Gases	EF (Natural Gas) kg/MMBtu	Reznor VR-2—60 Receiveing Bay IRH 6 Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Reznor VR-2—60 Receiveing Bay IRH 7 Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Reznor VR-2—60 Receiveing Bay IRH 8 Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)
CO_2	53.02	196	1,716,960	93.58	196	1,716,960	93.58	196	1,716,960	93.58
N_2O	1.0E-04	196	1,716,960	1.77E-04	196	1,716,960	1.77E-04	196	1,716,960	1.77E-04
CH_4	1.0E-03	196	1,716,960	1.77E-03	196	1,716,960	1.77E-03	196	1,716,960	1.77E-03
CO2e				93.67			93.67			93.67

Notes
[5]Eqn C-1: $CO_2 = 1 \times$
Fuel = Volume of
EF = Fuel-specific
HHV = Default hig
1×10^{-3} = Conver
[6]Eqn C-8: CH_4 or N_2
Fuel = Volume of
EF = Fuel-specific
HHV = Default hig
1×10^{-3} = Conver
[7]CO_2e = (GWP CO_2
Global Warming F
GWP CO_2 =
GWP CH_4 =
GWP N_2O =

Notes
[5]Eqn C-1: $CO_2 = 1 \times 10^{-3} \times$ Fuel x HHV x EF
Fuel = Volume of fuel combusted per year, (SCF/Year)
EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)
HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)
1×10^{-3} = Conversion Factor from Kilograms to Metric Tons
[6]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times$ Fuel x HHV x EF
Fuel = Volume of fuel combusted per year, (SCF/Year)
EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)
HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)
1×10^{-3} = Conversion Factor from Kilograms to Metric Tons
[7]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)
Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1
GWP CO_2 = 1.00
GWP CH_4 = 21.00
GWP N_2O = 310.00

AgroFarma Twin Falls - Chobani Faciltiy Emissions Estimate
RTUs (NG)
Annual Operation 8,760 hours/year

Emission Unit	Input (MMBTU/hr)
Main Office RTU 1 Carrier 48A5,T,030 (indirect fired)	0.525
Main Office RTU 2 Carrier 48A5,T,030 (indirect fired)	0.525
Main Office RTU 3 Carrier 48A5,T,030 (indirect fired)	0.525
Main Office RTU 4 Carrier 48A5,T,030 (indirect fired)	0.525
Main Office RTU 5 Carrier 48A5,T,030 (indirect fired)	0.525
Main Office RTU 6 Carrier 48A5,T,030 (indirect fired)	0.525
Meeting/RR/Plant Offices/Maintenance Office RTU Carrier 48A5,S,020 (indirect fired RTU)	0.350
Mantenance/Parts/Fab RTU Carrier 48A5,S,060 (indirect fired)	1.164

		Main Office RTU 1 Carrier 48A5,T,030 (indirect fired)		Main Office RTU 2 Carrier 48A5,T,030 (indirect fired)		Main Office RTU 3 Carrier 48A5,T,030 (indirect fired)		Main Office RTU 4 Carrier 48A5,T,030 (indirect fired)		Main Office RTU 5 Carrier 48A5,T,030 (indirect fired)		Main Office RTU 6 Carrier 48A5,T,030 (indirect fired)		Meeting/RR/Plant Offices/Maint Office RTU Carrier 48A5,S,020 (indirect fired)		Mantenance/Parts/Fab RTU Carrier 48A5,S,060 (indirect fired)	
Criteria Pollutant	**Emission Factor[1]** lb/10^6SCF	**Emission Rate** (lb/hr)	**Emission Rate** (ton/yr)	**Emission Rate** (lb/hr)	**Emission Rate** (ton/yr)	**Emission Rate** (lb/hr)	**Emission Rate** (ton/yr)	**Emission Rate** (lb/hr)	**Emission Rate** (ton/yr)	**Emission Rate** (lb/hr)	**Emission Rate** (ton/yr)	**Emission Rate** (lb/hr)	**Emission Rate** (ton/yr)	**Emission Rate** (lb/hr)	**Emission Rate** (ton/yr)	**Emission Rate** (lb/hr)	**Emission Rate** (ton/yr)
Total Particulate Matter (PM)	7.6	3.91E-03	0.02	3.91E-03	0.02	3.91E-03	0.02	3.91E-03	0.02	3.91E-03	0.02	3.91E-03	0.02	2.61E-03	0.01	0.01	0.04
Nitrogen Oxides (NOx)	100	0.05	0.22	0.05	0.22	0.05	0.22	0.05	0.22	0.05	0.22	0.05	0.22	0.03	0.13	0.11	0.48
Sulfur Dioxide (SO_2)	0.6	3.09E-04	1.35E-03	3.09E-04	1.35E-03	3.09E-04	1.35E-03	3.09E-04	1.35E-03	3.09E-04	1.35E-03	3.09E-04	1.35E-03	2.06E-04	9.02E-04	6.85E-04	3.00E-03
Carbon Monoxide (CO)	84	0.04	0.18	0.04	0.18	0.04	0.18	0.04	0.18	0.04	0.18	0.04	0.18	0.03	0.13	0.10	0.44
VOC	5.5	2.83E-03	0.01	2.83E-03	0.01	2.83E-03	1.24E-02	2.83E-03	0.01	2.83E-03	0.01	2.83E-03	0.01	1.89E-03	8.28E-03	0.01	0.04
Lead	5.00E-04	2.57E-07	1.13E-06	2.57E-07	1.13E-06	2.57E-07	1.13E-06	2.57E-07	1.13E-06	2.57E-07	1.13E-06	2.57E-07	1.13E-06	1.72E-07	7.53E-07	5.71E-07	2.50E-06

AgroFarma Twin Falls - Chobani Faciltiy Emissions Estimate

RTUs (NG)

Annual Operation 8,760 hours/year

Toxic Air Pollutants Non-metals [2]	CAS No.	CAA 112(b) HAP	EPA AP-42 Natural Gas Emission Factor	Main Office RTU 1 Carrier 48A5,T,030 (indirect fired)					Main Office RTU 2 Carrier 48A5,T,030 (indirect fired)					Main Office RTU 3 Carrier 48A5,T,030 (indirect fired)				
				Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL
			(lb/10^6 scf)	10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/yr)	(lb/hr)	
Pentane	109-66-0	No	2.60E+00	5.15E-04	1.34E-03	5.87E-03	1.18E+02	Below	5.15E-04	1.34E-03	5.87E-03	1.18E+02	Below	5.15E-04	1.34E-03	5.87E-03	1.18E+02	Below
Benzene	71-43-2	Yes	2.10E-03	5.15E-04	1.08E-06	4.73E-06	8.00E-04	Below	5.15E-04	1.08E-06	4.73E-06	8.00E-04	Below	5.15E-04	1.08E-06	4.73E-06	8.00E-04	Below
3-Methylchloranthrene	56-49-5	Yes	1.80E-06	5.15E-04	9.27E-10	4.06E-09	2.50E-06	Below	5.15E-04	9.27E-10	4.06E-09	2.50E-06	Below	5.15E-04	9.27E-10	4.06E-09	2.50E-06	Below
Benzo(a)pyrene*	50-32-8	Yes	1.20E-06	5.15E-04	6.18E-10	2.71E-09	2.00E-06	Below	5.15E-04	6.18E-10	2.71E-09	2.00E-06	Below	5.15E-04	6.18E-10	2.71E-09	2.00E-06	Below
Formaldehyde	50-00-0	Yes	7.50E-02	5.15E-04	3.86E-05	1.69E-04	5.10E-04	Below	5.15E-04	3.86E-05	1.69E-04	5.10E-04	Below	5.15E-04	3.86E-05	1.69E-04	5.10E-04	Below
POM (7-PAH)[3]		Yes		5.15E-04	6.49E-09	2.84E-08	2.00E-06	Below	5.15E-04	6.49E-09	2.84E-08	2.00E-06	Below	5.15E-04	6.49E-09	2.84E-08	2.00E-06	Below
Hexane	110-54-3	Yes	1.80E+00	5.15E-04	9.27E-04	4.06E-03	1.20E+01	Below	5.15E-04	9.27E-04	4.06E-03	1.20E+01	Below	5.15E-04	9.27E-04	4.06E-03	1.20E+01	Below
Naphthalene	91-20-3	Yes	6.10E-04	5.15E-04	3.14E-07	1.38E-06	9.10E-05	Below	5.15E-04	3.14E-07	1.38E-06	9.10E-05	Below	5.15E-04	3.14E-07	1.38E-06	9.10E-05	Below
Toluene	108-88-3	Yes	3.40E-03	5.15E-04	1.75E-06	7.67E-06	2.50E+01	Below	5.15E-04	1.75E-06	7.67E-06	2.50E+01	Below	5.15E-04	1.75E-06	7.67E-06	2.50E+01	Below
2-Methylnapthalene	97-57-6	Yes	2.40E-05	5.15E-04	1.24E-08	5.43E-08			5.15E-04	1.24E-08	5.43E-08			5.15E-04	1.24E-08	5.43E-08		
7, 12 - Dimethylbenz(a)anthracene		Yes	1.60E-05	5.15E-04	8.24E-09	3.61E-08			5.15E-04	8.24E-09	3.61E-08			5.15E-04	8.24E-09	3.61E-08		
Acenaphthene	83-32-9	Yes	1.80E-06	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Acenaphyhylene	203-96-8	Yes	1.80E-06	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Anthracene	120-12-7	Yes	2.40E-06	5.15E-04	1.24E-09	5.43E-09			5.15E-04	1.24E-09	5.43E-09			5.15E-04	1.24E-09	5.43E-09		
Dichlorobenzene	25321-22-6	Yes	1.20E-03	5.15E-04	6.18E-07	2.71E-06			5.15E-04	6.18E-07	2.71E-06			5.15E-04	6.18E-07	2.71E-06		
Flouranthene	206-44-0	Yes	3.00E-06	5.15E-04	1.55E-09	6.79E-09			5.15E-04	1.55E-09	6.79E-09			5.15E-04	1.55E-09	6.79E-09		
Fluorene	86-73-7	Yes	2.80E-06	5.15E-04	1.44E-09	6.31E-09			5.15E-04	1.44E-09	6.31E-09			5.15E-04	1.44E-09	6.31E-09		
Phenanthrene	85-01-8	Yes	1.70E-05	5.15E-04	8.76E-09	3.84E-08			5.15E-04	8.76E-09	3.84E-08			5.15E-04	8.76E-09	3.84E-08		
Benzo(a)anthracene*	56-55-3	Yes	1.80E-06	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Benzo(b)fluoranthene*	205-82-3	Yes	1.80E-06	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Benzo(g,h,i)perylene	191-24-2	Yes	1.20E-06	5.15E-04	6.18E-10	2.71E-09			5.15E-04	6.18E-10	2.71E-09			5.15E-04	6.18E-10	2.71E-09		
Benzo(k)fluoranthene*	205-82-3	Yes	1.80E-06	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Chrysene*	218-01-9	Yes	1.80E-06	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Dibenzo(a,h)anthracene*	53-70-3	Yes	1.20E-06	5.15E-04	6.18E-10	2.71E-09			5.15E-04	6.18E-10	2.71E-09			5.15E-04	6.18E-10	2.71E-09		
Indeno(1,2,3-cd)pyrene*	193-39-5	Yes	1.80E-06	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		

AgroFarma Twin Falls - Chobani Faciltiy Emissions Estimate

RTUs (NG)

Annual Operation 8,760 hours/year

Toxic Air Pollutants Metals [4]	CAS Number	CAA 112(b) HAP	Emission Factor (lb/10^6 scf)	Main Office RTU 1 Carrier 48A5,T,030 (indirect fired) Input (10^6SCF/hr)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL	Main Office RTU 2 Carrier 48A5,T,030 (indirect fired) Input (10^6SCF/hr)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL	Main Office RTU 3 Carrier 48A5,T,030 (indirect fired) Input (10^6SCF/hr)	Emission Rate (lb/hr)	Emission Rate (ton/yr)	IDAPA 58.01.01.585 or 586 EL (lb/hr)	Emission Rate vs. EL
Mercury	7439-97-6	Yes	2.60E-04	5.15E-04	1.34E-07	5.87E-07			5.15E-04	1.34E-07	5.87E-07			5.15E-04	1.34E-07	5.87E-07		
Arsenic	7440-38-2	Yes	2.00E-04	5.15E-04	1.03E-07	4.51E-07	1.50E-06	Below	5.15E-04	1.03E-07	4.51E-07	1.50E-06	Below	5.15E-04	1.03E-07	4.51E-07	1.50E-06	Below
Nickel	7440-02-0	Yes	2.10E-03	5.15E-04	1.08E-06	4.73E-06	2.75E-05	Below	5.15E-04	1.08E-06	4.73E-06	2.75E-05	Below	5.15E-04	1.08E-06	4.73E-06	2.75E-05	Below
Beryllium	7440-41-7	Yes	1.20E-05	5.15E-04	6.18E-09	2.71E-08	2.80E-05	Below	5.15E-04	6.18E-09	2.71E-08	2.80E-05	Below	5.15E-04	6.18E-09	2.71E-08	2.80E-05	Below
Cadmium	7440-43-9	Yes	1.10E-03	5.15E-04	5.67E-07	2.48E-06	3.70E-06	Below	5.15E-04	5.67E-07	2.48E-06	3.70E-06	Below	5.15E-04	5.67E-07	2.48E-06	3.70E-06	Below
Chromium	7440-47-3	Yes	1.40E-03	5.15E-04	7.21E-07	3.16E-06	3.30E-02	Below	5.15E-04	7.21E-07	3.16E-06	3.30E-02	Below	5.15E-04	7.21E-07	3.16E-06	3.30E-02	Below
Cobalt	7440-48-4	Yes	8.40E-05	5.15E-04	4.33E-08	1.90E-07	3.30E-03	Below	5.15E-04	4.33E-08	1.90E-07	3.30E-03	Below	5.15E-04	4.33E-08	1.90E-07	3.30E-03	Below
Manganese	7439-96-5	Yes	3.80E-04	5.15E-04	1.96E-07	8.58E-07	6.70E-02	Below	5.15E-04	1.96E-07	8.58E-07	6.70E-02	Below	5.15E-04	1.96E-07	8.58E-07	6.70E-02	Below
Molybdenum	7439-98-7	Yes	1.10E-03	5.15E-04	5.67E-07	2.48E-06	3.33E-01	Below	5.15E-04	5.67E-07	2.48E-06	3.33E-01	Below	5.15E-04	5.67E-07	2.48E-06	3.33E-01	Below
Selenium	7782-49-2	Yes	2.40E-05	5.15E-04	1.24E-08	5.43E-08	1.30E-02	Below	5.15E-04	1.24E-08	5.43E-08	1.30E-02	Below	5.15E-04	1.24E-08	5.43E-08	1.30E-02	Below
Vanadium	1314-62-1	No	2.30E-03	5.15E-04	1.18E-06	5.17E-06	3.00E-03	Below	5.15E-04	1.18E-06	5.17E-06	3.00E-03	Below	5.15E-04	1.18E-06	5.17E-06	3.00E-03	Below
Zinc	7440-66-6	No	2.90E-02	5.15E-04	1.49E-05	6.53E-05	3.33E-01	Below	5.15E-04	1.49E-05	6.53E-05	3.33E-01	Below	5.15E-04	1.49E-05	6.53E-05	3.33E-01	Below
Barium	7440-39-3	No	4.40E-03	5.15E-04	2.27E-06	9.94E-06	3.30E-02	Below	5.15E-04	2.27E-06	9.94E-06	3.30E-02	Below	5.15E-04	2.27E-06	9.94E-06	3.30E-02	Below
Copper	7440-50-8	No	8.50E-04	5.15E-04	4.38E-07	1.92E-06	1.30E-02	Below	5.15E-04	4.38E-07	1.92E-06	1.30E-02	Below	5.15E-04	4.38E-07	1.92E-06	1.30E-02	Below
			Total Non-Metal HAPs		9.69E-04	4.25E-03			**Total Non-Metal HAPs**	9.69E-04	4.25E-03			**Total Non-M**	9.69E-04	4.25E-03		**Total Non-**
			Total Metal HAPs		3.43E-06	1.50E-05			**Total Metal HAPs**	3.43E-06	1.50E-05			**Total Metal H**	3.43E-06	1.50E-05		**Total**
			Total HAPs		9.72E-04	4.27E-03			**Total HAPs**	9.72E-04	4.27E-03			**Total HAPs**	9.72E-04	4.27E-03		

Notes:

[1] Criteria Pollutant emission factors for small uncontrolled boilers as stated AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-1 and 1.4-2. PM emission factor is assumed to equal PM10.
Conversion Factor: 1020 BTU/SCF

[2] Toxic Air Pollutants emission factors from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3.

[3] Polycyclic Organic Matter (POM) is considered as one TAP consisting of benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, and benzo(a)pyrene. Compounds constituting POM are designated as *.

[4] Toxic Air Pollutant Metal emission factors from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4.

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Main Office RTU 1 Carrier 48A5,T,030 (indirect fired) Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] metric ton/yr	Main Office RTU 2 Carrier 48A5,T,030 (indirect fired) Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Main Office RTU 3 Carrier 48A5,T,030 (indirect fired) Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Main Office RTU 4 Carrier 48A5,T,030 (indirect fired) Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] (metric ton/yr)	Main Office RTU 5 Carrier 48A5,T,030 (indirect fired) Input (SCF/hr)	Input (SCF/yr)	Emission Rate[5,6,7] metric ton/y
CO_2	53.02	1.028E-03	40 CFR 98 Subpart C Equation C-1 Tier 1	515	4,511,400	245.89	515	4,511,400	245.89	515	4,511,400	245.89	515	4,511,400	245.89	515	4,511,400	245.89
N_2O	1.0E-04	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	515	4,511,400	4.64E-04	515	4,511,400	4.64E-04	515	4,511,400	4.64E-04	515	4,511,400	4.64E-04	515	4,511,400	4.64E-04
CH_4	1.0E-03	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	515	4,511,400	4.64E-03	515	4,511,400	4.64E-03	515	4,511,400	4.64E-03	515	4,511,400	4.64E-03	515	4,511,400	4.64E-03
CO2e			40 CFR 98 Part A			246.13			246.13			246.13			246.13			246.13

Notes

[5] Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$
Fuel = Volume of fuel combusted per year, (SCF/Year)
EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)
HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)
1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[6] Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$
Fuel = Volume of fuel combusted per year, (SCF/Year)
EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)
HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)
1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7] CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)
Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 =	1.00
GWP CH_4 =	21.00
GWP N_2O =	310.00

AgroFarma Twin Fall
RTUs (NG)
Annual Operation

Toxic Air Pollutants Non-metals [2]	Main Office RTU 4 Carrier 48A5,T,030 (indirect fired)					Main Office RTU 5 Carrier 48A5,T,030 (indirect fired)					Main Office RTU 6 Carrier 48A5,T,030 (indirect fired)				
	Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL
	10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)	
Pentane	5.15E-04	1.34E-03	5.87E-03	1.18E+02	Below	5.15E-04	1.34E-03	5.87E-03	1.18E+02	Below	5.15E-04	1.34E-03	5.87E-03	1.18E+02	Below
Benzene	5.15E-04	1.08E-06	4.73E-06	8.00E-04	Below	5.15E-04	1.08E-06	4.73E-06	8.00E-04	Below	5.15E-04	1.08E-06	4.73E-06	8.00E-04	Below
3-Methylchloranthrene	5.15E-04	9.27E-10	4.06E-09	2.50E-06	Below	5.15E-04	9.27E-10	4.06E-09	2.50E-06	Below	5.15E-04	9.27E-10	4.06E-09	2.50E-06	Below
Benzo(a)pyrene*	5.15E-04	6.18E-10	2.71E-09	2.00E-06	Below	5.15E-04	6.18E-10	2.71E-09	2.00E-06	Below	5.15E-04	6.18E-10	2.71E-09	2.00E-06	Below
Formaldehyde	5.15E-04	3.86E-05	1.69E-04	5.10E-04	Below	5.15E-04	3.86E-05	1.69E-04	5.10E-04	Below	5.15E-04	3.86E-05	1.69E-04	5.10E-04	Below
POM (7-PAH)[3]	5.15E-04	6.49E-09	2.84E-08	2.00E-06	Below	5.15E-04	6.49E-09	2.84E-08	2.00E-06	Below	5.15E-04	6.49E-09	2.84E-08	2.00E-06	Below
Hexane	5.15E-04	9.27E-04	4.06E-03	1.20E+01	Below	5.15E-04	9.27E-04	4.06E-03	1.20E+01	Below	5.15E-04	9.27E-04	4.06E-03	1.20E+01	Below
Naphthalene	5.15E-04	3.14E-07	1.38E-06	9.10E-05	Below	5.15E-04	3.14E-07	1.38E-06	9.10E-05	Below	5.15E-04	3.14E-07	1.38E-06	9.10E-05	Below
Toluene	5.15E-04	1.75E-06	7.67E-06	2.50E+01	Below	5.15E-04	1.75E-06	7.67E-06	2.50E+01	Below	5.15E-04	1.75E-06	7.67E-06	2.50E+01	Below
2-Methylnapthalene	5.15E-04	1.24E-08	5.43E-08			5.15E-04	1.24E-08	5.43E-08			5.15E-04	1.24E-08	5.43E-08		
7, 12 - Dimethylbenz(a)anthracene	5.15E-04	8.24E-09	3.61E-08			5.15E-04	8.24E-09	3.61E-08			5.15E-04	8.24E-09	3.61E-08		
Acenaphthene	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Acenaphyhylene	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Anthracene	5.15E-04	1.24E-09	5.43E-09			5.15E-04	1.24E-09	5.43E-09			5.15E-04	1.24E-09	5.43E-09		
Dichlorobenzene	5.15E-04	6.18E-07	2.71E-06			5.15E-04	6.18E-07	2.71E-06			5.15E-04	6.18E-07	2.71E-06		
Flouranthene	5.15E-04	1.55E-09	6.79E-09			5.15E-04	1.55E-09	6.79E-09			5.15E-04	1.55E-09	6.79E-09		
Fluorene	5.15E-04	1.44E-09	6.31E-09			5.15E-04	1.44E-09	6.31E-09			5.15E-04	1.44E-09	6.31E-09		
Phenanthrene	5.15E-04	8.76E-09	3.84E-08			5.15E-04	8.76E-09	3.84E-08			5.15E-04	8.76E-09	3.84E-08		
Benzo(a)anthracene*	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Benzo(b)fluoranthene*	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Benzo(g,h,i)perylene	5.15E-04	6.18E-10	2.71E-09			5.15E-04	6.18E-10	2.71E-09			5.15E-04	6.18E-10	2.71E-09		
Benzo(k)fluoranthene*	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Chrysene*	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		
Dibenzo(a,h)anthracene*	5.15E-04	6.18E-10	2.71E-09			5.15E-04	6.18E-10	2.71E-09			5.15E-04	6.18E-10	2.71E-09		
Indeno(1,2,3-cd)pyrene*	5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09			5.15E-04	9.27E-10	4.06E-09		

AgroFarma Twin Fall
RTUs (NG)
Annual Operation

Toxic Air Pollutants Metals [4]	Main Office RTU 4 Carrier 48A5,T,030 (indirect fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Main Office RTU 5 Carrier 48A5,T,030 (indirect fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Main Office RTU 6 Carrier 48A5,T,030 (indirect fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL
	10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)	
Mercury	5.15E-04	1.34E-07	5.87E-07			5.15E-04	1.34E-07	5.87E-07			5.15E-04	1.34E-07	5.87E-07		
Arsenic	5.15E-04	1.03E-07	4.51E-07	1.50E-06	Below	5.15E-04	1.03E-07	4.51E-07	1.50E-06	Below	5.15E-04	1.03E-07	4.51E-07	1.50E-06	Below
Nickel	5.15E-04	1.08E-06	4.73E-06	2.75E-05	Below	5.15E-04	1.08E-06	4.73E-06	2.75E-05	Below	5.15E-04	1.08E-06	4.73E-06	2.75E-05	Below
Beryllium	5.15E-04	6.18E-09	2.71E-08	2.80E-05	Below	5.15E-04	6.18E-09	2.71E-08	2.80E-05	Below	5.15E-04	6.18E-09	2.71E-08	2.80E-05	Below
Cadmium	5.15E-04	5.67E-07	2.48E-06	3.70E-06	Below	5.15E-04	5.67E-07	2.48E-06	3.70E-06	Below	5.15E-04	5.67E-07	2.48E-06	3.70E-06	Below
Chromium	5.15E-04	7.21E-07	3.16E-06	3.30E-02	Below	5.15E-04	7.21E-07	3.16E-06	3.30E-02	Below	5.15E-04	7.21E-07	3.16E-06	3.30E-02	Below
Cobalt	5.15E-04	4.33E-08	1.90E-07	3.30E-03	Below	5.15E-04	4.33E-08	1.90E-07	3.30E-03	Below	5.15E-04	4.33E-08	1.90E-07	3.30E-03	Below
Manganese	5.15E-04	1.96E-07	8.58E-07	6.70E-02	Below	5.15E-04	1.96E-07	8.58E-07	6.70E-02	Below	5.15E-04	1.96E-07	8.58E-07	6.70E-02	Below
Molybdenum	5.15E-04	5.67E-07	2.48E-06	3.33E-01	Below	5.15E-04	5.67E-07	2.48E-06	3.33E-01	Below	5.15E-04	5.67E-07	2.48E-06	3.33E-01	Below
Selenium	5.15E-04	1.24E-08	5.43E-08	1.30E-02	Below	5.15E-04	1.24E-08	5.43E-08	1.30E-02	Below	5.15E-04	1.24E-08	5.43E-08	1.30E-02	Below
Vanadium	5.15E-04	1.18E-06	5.17E-06	3.00E-03	Below	5.15E-04	1.18E-06	5.17E-06	3.00E-03	Below	5.15E-04	1.18E-06	5.17E-06	3.00E-03	Below
Zinc	5.15E-04	1.49E-05	6.53E-05	3.33E-01	Below	5.15E-04	1.49E-05	6.53E-05	3.33E-01	Below	5.15E-04	1.49E-05	6.53E-05	3.33E-01	Below
Barium	5.15E-04	2.27E-06	9.94E-06	3.30E-02	Below	5.15E-04	2.27E-06	9.94E-06	3.30E-02	Below	5.15E-04	2.27E-06	9.94E-06	3.30E-02	Below
Copper	5.15E-04	4.38E-07	1.92E-06	1.30E-02	Below	5.15E-04	4.38E-07	1.92E-06	1.30E-02	Below	5.15E-04	4.38E-07	1.92E-06	1.30E-02	Below
	Metal HAPs	9.69E-04	4.25E-03			**Total Non-Metal HAPs**	9.69E-04	4.25E-03			**Total Non-Metal HAPs**	9.69E-04	4.25E-03		
	Metal HAPs	3.43E-06	1.50E-05			**Total Metal HAPs**	3.43E-06	1.50E-05			**Total Metal HAPs**	3.43E-06	1.50E-05		
	Total HAPs	9.72E-04	4.27E-03			**Total HAPs**	9.72E-04	4.27E-03			**Total HAPs**	9.72E-04	4.27E-03		

Green House Gases	Main Office RTU 6 Carrier 48A5,T,030 (indirect fired) Input	Input	Emission Rate[5,6,7]	Meeting/RR/Plant Offices/Maint Office RTU Carrier 48A5,S,020 (indirect fired) Input	Input	Emission Rate[5,6,7]	Mantenance/Parts/Fab RTU Carrier 48A5,S,060 (indirect fired) Input	Input	Emission Rate[5,6,7]
	(SCF/hr)	(SCF/yr)	(metric ton/yr	(SCF/hr)	(SCF/yr)	(metric ton/yr)	(SCF/hr)	(SCF/yr)	(metric ton/yr)
CO_2	515	4,511,400	245.89	343	3,004,680	163.77	1,141	9,995,160	544.78
N_2O	515	4,511,400	4.64E-04	343	3,004,680	3.09E-04	1,141	9,995,160	1.03E-03
CH_4	515	4,511,400	4.64E-03	343	3,004,680	3.09E-03	1,141	9,995,160	0.01
CO2e			246.13			163.93			545.31

Notes

[5]Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$
Fuel = Volume of fuel combusted per year, (SCF/Year)
EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)
HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)
1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[6]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$
Fuel = Volume of fuel combusted per year, (SCF/Year)
EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)
HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)
1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)
Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1
GWP CO_2 = 1.00
GWP CH_4 = 21.00
GWP N_2O = 310.00

AgroFarma Twin Fall
RTUs (NG)
Annual Operation

	Meeting/RR/Plant Offices/Maint Office RTU Carrier 48A5,S,020 (indirect fired)					Mantenance/Parts/Fab RTU Carrier 48A5,S,060 (indirect fired)				
Toxic Air Pollutants Non-metals [2]	**Input**	**Emission Rate**	**Emission Rate**	**IDAPA 58.01.01.585 or 586 EL**	**Emission Rate vs. EL**	**Input**	**Emission Rate**	**Emission Rate**	**IDAPA 58.01.01.585 or 586 EL**	**Emission Rate vs. EL**
	10^6SCF/hr	**(lb/hr)**	**(ton/yr)**	**(lb/hr)**		**10^6SCF/hr**	**(lb/hr)**	**(ton/year)**	**(lb/hr)**	
Pentane	3.43E-04	8.92E-04	3.91E-03	1.18E+02	Below	1.14E-03	2.96E-03	1.30E-02	1.18E+02	Below
Benzene	3.43E-04	7.20E-07	3.15E-06	8.00E-04	Below	1.14E-03	2.39E-06	1.05E-05	8.00E-04	Below
3-Methylchloranthrene	3.43E-04	6.17E-10	2.70E-09	2.50E-06	Below	1.14E-03	2.05E-09	8.98E-09	2.50E-06	Below
Benzo(a)pyrene*	3.43E-04	4.12E-10	1.80E-09	2.00E-06	Below	1.14E-03	1.37E-09	6.00E-09	2.00E-06	Below
Formaldehyde	3.43E-04	2.57E-05	1.13E-04	5.10E-04	Below	1.14E-03	8.55E-05	3.74E-04	5.10E-04	Below
POM (7-PAH)[3]	3.43E-04	4.32E-09	1.89E-08	2.00E-06	Below	1.14E-03	1.44E-08	6.29E-08	2.00E-06	Below
Hexane	3.43E-04	6.17E-04	2.70E-03	1.20E+01	Below	1.14E-03	2.05E-03	8.98E-03	1.20E+01	Below
Naphthalene	3.43E-04	2.09E-07	9.15E-07	9.10E-05	Below	1.14E-03	6.95E-07	3.04E-06	9.10E-05	Below
Toluene	3.43E-04	1.17E-06	5.12E-06	2.50E+01	Below	1.14E-03	3.88E-06	1.70E-05	2.50E+01	Below
2-Methylnapthalene	3.43E-04	8.23E-09	3.60E-08			1.14E-03	2.74E-08	1.20E-07		
7, 12 - Dimethylbenz(a)anthracene	3.43E-04	5.49E-09	2.40E-08			1.14E-03	1.82E-08	7.97E-08		
Acenaphthene	3.43E-04	6.17E-10	2.70E-09			1.14E-03	2.05E-09	8.98E-09		
Acenaphyhylene	3.43E-04	6.17E-10	2.70E-09			1.14E-03	2.05E-09	8.98E-09		
Anthracene	3.43E-04	8.23E-10	3.60E-09			1.14E-03	2.74E-09	1.20E-08		
Dichlorobenzene	3.43E-04	4.12E-07	1.80E-06			1.14E-03	1.37E-06	6.00E-06		
Flouranthene	3.43E-04	1.03E-09	4.51E-09			1.14E-03	3.42E-09	1.50E-08		
Fluorene	3.43E-04	9.60E-10	4.20E-09			1.14E-03	3.19E-09	1.40E-08		
Phenanthrene	3.43E-04	5.83E-09	2.55E-08			1.14E-03	1.94E-08	8.50E-08		
Benzo(a)anthracene*	3.43E-04	6.17E-10	2.70E-09			1.14E-03	2.05E-09	8.98E-09		
Benzo(b)fluoranthene*	3.43E-04	6.17E-10	2.70E-09			1.14E-03	2.05E-09	8.98E-09		
Benzo(g,h,i)perylene	3.43E-04	4.12E-10	1.80E-09			1.14E-03	1.37E-09	6.00E-09		
Benzo(k)fluoranthene*	3.43E-04	6.17E-10	2.70E-09			1.14E-03	2.05E-09	8.98E-09		
Chrysene*	3.43E-04	6.17E-10	2.70E-09			1.14E-03	2.05E-09	8.98E-09		
Dibenzo(a,h)anthracene*	3.43E-04	4.12E-10	1.80E-09			1.14E-03	1.37E-09	6.00E-09		
Indeno(1,2,3-cd)pyrene*	3.43E-04	6.17E-10	2.70E-09			1.14E-03	2.05E-09	8.98E-09		

AgroFarma Twin Fall
RTUs (NG)
Annual Operation

Toxic Air Pollutants Metals [4]	Meeting/RR/Plant Offices/Maint Office RTU Carrier 48A5,S,020 (indirect fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL	Mantenance/Parts/Fab RTU Carrier 48A5,S,060 (indirect fired) Input	Emission Rate	Emission Rate	IDAPA 58.01.01.585 or 586 EL	Emission Rate vs. EL
	10^6SCF/hr	(lb/hr)	(ton/yr)	(lb/hr)		10^6SCF/hr	(lb/hr)	(ton/year)	(lb/hr)	
Mercury	3.43E-04	8.92E-08	3.91E-07			1.14E-03	2.96E-07	1.30E-06		
Arsenic	3.43E-04	6.86E-08	3.00E-07	1.50E-06	Below	1.14E-03	2.28E-07	9.99E-07	1.50E-06	Below
Nickel	3.43E-04	7.20E-07	3.15E-06	2.75E-05	Below	1.14E-03	2.39E-06	1.05E-05	2.75E-05	Below
Beryllium	3.43E-04	4.12E-09	1.80E-08	2.80E-05	Below	1.14E-03	1.37E-08	6.00E-08	2.80E-05	Below
Cadmium	3.43E-04	3.77E-07	1.65E-06	3.70E-06	Below	1.14E-03	1.25E-06	5.48E-06	3.70E-06	Below
Chromium	3.43E-04	4.80E-07	2.10E-06	3.30E-02	Below	1.14E-03	1.60E-06	7.01E-06	3.30E-02	Below
Cobalt	3.43E-04	2.88E-08	1.26E-07	3.30E-03	Below	1.14E-03	9.58E-08	4.20E-07	3.30E-03	Below
Manganese	3.43E-04	1.30E-07	5.69E-07	6.70E-02	Below	1.14E-03	4.33E-07	1.90E-06	6.70E-02	Below
Molybdenum	3.43E-04	3.77E-07	1.65E-06	3.33E-01	Below	1.14E-03	1.25E-06	5.48E-06	3.33E-01	Below
Selenium	3.43E-04	8.23E-09	3.60E-08	1.30E-02	Below	1.14E-03	2.74E-08	1.20E-07	1.30E-02	Below
Vanadium	3.43E-04	7.89E-07	3.46E-06	3.00E-03	Below	1.14E-03	2.62E-06	1.15E-05	3.00E-03	Below
Zinc	3.43E-04	9.95E-06	4.36E-05	3.33E-01	Below	1.14E-03	3.31E-05	1.45E-04	3.33E-01	Below
Barium	3.43E-04	1.51E-06	6.61E-06	3.30E-02	Below	1.14E-03	5.02E-06	2.20E-05	3.30E-02	Below
Copper	3.43E-04	2.92E-07	1.28E-06	1.30E-02	Below	1.14E-03	9.69E-07	4.24E-06	1.30E-02	Below
	Total Non-Metal HAPs	6.45E-04	2.82E-03			**Total Non-Metal HAPs**	2.14E-03	9.39E-03		
	Total Metal HAPs	2.28E-06	9.99E-06			**Total Metal HAPs**	7.58E-06	3.33E-05		
	Total HAPs	6.47E-04	2.83E-03			**Total HAPs**	2.15E-03	0.01		

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 1

Boiler Heat Input (MMBTU/hr)	32.659
Manufacturer	Cleaver Brooks
Model No.	CBLE-700-800
Fuel Type	Natural Gas
Natural Gas Fuel Heat Value (BTU/SCF)	1,020
Natural Gas Use (10^6 scf/hr)	0.0320
Annual Operation (hrs/yr)	8,760

Cleaver Brooks Boiler Expected Emission Data for Model CB(LE)

Criteria Pollutant	Emission Factor[1] (lb/MM Btu)	Emission Rate (lb/hr)	Emission Rate (ton/year)
Total Particulate Matter (PM)	0.010	0.33	1.45
Nitrogen Oxides (NOx)	0.071	2.32	10.16
Sulfur Dioxide (SO_2)	0.0006	0.02	0.09
Carbon Monoxide (CO)	0.036	1.18	5.17
VOC	0.004	0.13	0.57
Lead[2]	5.00E-04	1.60E-05	7.01E-05

PM gr/scf at 3% O2 = PM lb/MMBTU x (20.9-3)/20.9 x 7000 gr/1 lb x 1/f Factor for NG dscf/MMBTU

PM gr/scf at 3% O2 **0.007 gr/dscf**

where:

f factor for NG = 8710 dscf/MMBTU 40 CFR Part 75 specifies a Fd value of 8,710 dscf/mmBtu

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 1

Toxic Air Pollutants Non-metals [3]	CAS No.	EPA AP-42 Natural Gas Emission Factor (lb/10^6 scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	Emission Rate vs. EL	CAA 112(b) HAP?
Pentane	109-66-0	2.60E+00	8.32E-02	3.64E-01	1.18E+02	Below	No
Benzene	71-43-2	2.10E-03	6.72E-05	2.94E-04	8.00E-04	Below	Yes
3-Methylchloranthrene	56-49-5	1.80E-06	5.76E-08	2.52E-07	2.50E-06	Below	Yes
Benzo(a)pyrene*	50-32-8	1.20E-06	3.84E-08	1.68E-07	2.00E-06	Below	Yes
Formaldehyde	50-00-0	7.50E-02	2.40E-03	1.05E-02	5.10E-04	**Exceeds**	Yes
POM (7-PAH)[4]			3.65E-07	1.60E-06	2.00E-06	Below	Yes
Hexane	110-54-3	1.80E+00	5.76E-02	2.52E-01	1.20E+01	Below	Yes
Naphthalene	91-20-3	6.10E-04	1.95E-05	8.54E-05	9.10E-05	Below	Yes
Toluene	108-88-3	3.40E-03	1.09E-04	4.77E-04	2.50E+01	Below	Yes
2-Methylnapthalene	97-57-6	2.40E-05	7.68E-07	3.36E-06			Yes
7, 12 - Dimethylbenz(a)anthracene		1.60E-05	5.12E-07	2.24E-06			Yes
Acenaphthene	83-32-9	1.80E-06	5.76E-08	2.52E-07			Yes
Acenaphyhylene	203-96-8	1.80E-06	5.76E-08	2.52E-07			Yes
Anthracene	120-12-7	2.40E-06	7.68E-08	3.36E-07			Yes
Dichlorobenzene	25321-22-6	1.20E-03	3.84E-05	1.68E-04			Yes
Flouranthene	206-44-0	3.00E-06	9.60E-08	4.20E-07			Yes
Fluorene	86-73-7	2.80E-06	8.96E-08	3.92E-07			Yes
Phenanthrene	85-01-8	1.70E-05	5.44E-07	2.38E-06			Yes
Benzo(a)anthracene*	56-55-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(b)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.84E-08	1.68E-07			Yes
Benzo(k)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Chrysene*	218-01-9	1.80E-06	5.76E-08	2.52E-07			Yes
Dibenzo(a,h)anthracene*	53-70-3	1.20E-06	3.84E-08	1.68E-07			Yes
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	5.76E-08	2.52E-07			Yes

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 1

Toxic Air Pollutants Metals [5]	CAS Number	Emission Factor ($lb/10^6$ scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	PTE Emission Rate vs. EL	CAA 112(b) HAP?
Mercury	7439-97-6	2.60E-04	8.32E-06	3.64E-05			Yes
Arsenic	7440-38-2	2.00E-04	6.40E-06	2.80E-05	1.50E-06	Exceeds	Yes
Nickel	7440-02-0	2.10E-03	6.72E-05	2.94E-04	2.75E-05	Exceeds	Yes
Beryllium	7440-41-7	1.20E-05	3.84E-07	1.68E-06	2.80E-05	Below	Yes
Cadmium	7440-43-9	1.10E-03	3.52E-05	1.54E-04	3.70E-06	Exceeds	Yes
Chromium	7440-47-3	1.40E-03	4.48E-05	1.96E-04	3.30E-02	Below	Yes
Cobalt	7440-48-4	8.40E-05	2.69E-06	1.18E-05	3.30E-03	Below	Yes
Manganese	7439-96-5	3.80E-04	1.22E-05	5.34E-05	6.70E-02	Below	Yes
Molybdenum	7439-98-7	1.10E-03	3.52E-05	1.54E-04	3.33E-01	Below	Yes
Selenium	7782-49-2	2.40E-05	7.68E-07	3.36E-06	1.30E-02	Below	Yes
Vanadium	1314-62-1	2.30E-03	7.36E-05	3.22E-04	3.00E-03	Below	No
Zinc	7440-66-6	2.90E-02	9.28E-04	4.06E-03	3.33E-01	Below	No
Barium	7440-39-3	4.40E-03	1.41E-04	6.18E-04	3.30E-02	Below	No
Copper	7440-50-8	8.50E-04	2.72E-05	1.19E-04	1.30E-02	Below	No
		Total Non-Metal HAPs	6.02E-02	2.64E-01			
		Total Metal HAPs	2.13E-04	9.33E-04			
		Total HAPs	0.06	0.26			

Notes:

[1] Criteria Pollutants as stated in Cleaver Brooks Boiler Expected Emission Data for Model CB(LE). PM emission factor is assumed to equal PM10.

[2] Lead Emission factor from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-2. Emission factor units is $lb/10^6$ SCF.

[3] Toxic Air Pollutants (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3).

[4] Polycyclic Organic Matter (POM) is considered as one TAP consisting of benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, and benzo(a)pyrene. Compounds constituting POM are designated as *.

[5] Metals from Natural Gas Combustion (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4).

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 1

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Boiler 1 Input (SCF/hr)	Boiler 1 Input (SCF/yr)	Boiler 1 Emission Rate[6,7,8] (metric ton/yr)	Boiler 1 Emission Rate[6,7,8] (ton/year)
CO_2	53.02	1.028E-03	40 CFR 98 Subpart C	32,019	280,486,440	15,287.79	16,851.73
N_2O	1.0E-04	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-02	3.175E-02
CH_4	1.0E-03	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-01	3.175E-01
CO2e			40 CFR 98 Part A			15,302.77	16,868.24

Notes

[6]Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[8]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)

Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 =	1.00
GWP CH_4 =	21.00
GWP N_2O =	310.00

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 2

Boiler Heat Input (MMBTU/hr)	32.659
Manufacturer	Cleaver Brooks
Model No.	CBLE-700-800
Fuel Type	Natural Gas
Natural Gas Fuel Heat Value (BTU/SCF)	1,020
Natural Gas Use (10^6 scf/hr)	0.0320
Annual Operation (hrs/yr)	8,760

Cleaver Brooks Boiler Expected Emission Data for Model CB(LE)

Criteria Pollutant	Emission Factor[1] (lb/MM Btu)	Emission Rate (lb/hr)	Emission Rate (ton/year)
Total Particulate Matter (PM)	0.010	0.33	1.45
Nitrogen Oxides (NOx)	0.071	2.32	10.16
Sulfur Dioxide (SO_2)	0.0006	0.02	0.09
Carbon Monoxide (CO)	0.036	1.18	5.17
VOC	0.004	0.13	0.57
Lead[2]	5.00E-04	1.60E-05	7.01E-05

PM gr/scf at 3% O2 = PM lb/MMBTU x (20.9-3)/20.9 x 7000 gr/1 lb x 1/f Factor for NG dscf/MMBTU

PM gr/scf at 3% O2 **0.007 gr/dscf**

where:

f factor for NG = 8710 dscf/MMBTU 40 CFR Part 75 specifies a Fd value of 8,710 dscf/mmBtu

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 2

Toxic Air Pollutants Non-metals [3]	CAS No.	EPA AP-42 Natural Gas Emission Factor (lb/10^6 scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	Emission Rate vs. EL	CAA 112(b) HAP?
Pentane	109-66-0	2.60E+00	8.32E-02	3.64E-01	1.18E+02	Below	No
Benzene	71-43-2	2.10E-03	6.72E-05	2.94E-04	8.00E-04	Below	Yes
3-Methylchloranthrene	56-49-5	1.80E-06	5.76E-08	2.52E-07	2.50E-06	Below	Yes
Benzo(a)pyrene*	50-32-8	1.20E-06	3.84E-08	1.68E-07	2.00E-06	Below	Yes
Formaldehyde	50-00-0	7.50E-02	2.40E-03	1.05E-02	5.10E-04	**Exceeds**	Yes
POM (7-PAH)[4]			3.65E-07	1.60E-06	2.00E-06	Below	Yes
Hexane	110-54-3	1.80E+00	5.76E-02	2.52E-01	1.20E+01	Below	Yes
Naphthalene	91-20-3	6.10E-04	1.95E-05	8.54E-05	9.10E-05	Below	Yes
Toluene	108-88-3	3.40E-03	1.09E-04	4.77E-04	2.50E+01	Below	Yes
2-Methylnapthalene	97-57-6	2.40E-05	7.68E-07	3.36E-06			Yes
7, 12 - Dimethylbenz(a)anthracene		1.60E-05	5.12E-07	2.24E-06			Yes
Acenaphthene	83-32-9	1.80E-06	5.76E-08	2.52E-07			Yes
Acenaphyhylene	203-96-8	1.80E-06	5.76E-08	2.52E-07			Yes
Anthracene	120-12-7	2.40E-06	7.68E-08	3.36E-07			Yes
Dichlorobenzene	25321-22-6	1.20E-03	3.84E-05	1.68E-04			Yes
Flouranthene	206-44-0	3.00E-06	9.60E-08	4.20E-07			Yes
Fluorene	86-73-7	2.80E-06	8.96E-08	3.92E-07			Yes
Phenanthrene	85-01-8	1.70E-05	5.44E-07	2.38E-06			Yes
Benzo(a)anthracene*	56-55-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(b)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.84E-08	1.68E-07			Yes
Benzo(k)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Chrysene*	218-01-9	1.80E-06	5.76E-08	2.52E-07			Yes
Dibenzo(a,h)anthracene*	53-70-3	1.20E-06	3.84E-08	1.68E-07			Yes
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	5.76E-08	2.52E-07			Yes

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 2

Toxic Air Pollutants Metals [5]	CAS Number	Emission Factor (lb/10^6 scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	PTE Emission Rate vs. EL	CAA 112(b) HAP?
Mercury	7439-97-6	2.60E-04	8.32E-06	3.64E-05			Yes
Arsenic	7440-38-2	2.00E-04	6.40E-06	2.80E-05	1.50E-06	**Exceeds**	Yes
Nickel	7440-02-0	2.10E-03	6.72E-05	2.94E-04	2.75E-05	**Exceeds**	Yes
Beryllium	7440-41-7	1.20E-05	3.84E-07	1.68E-06	2.80E-05	Below	Yes
Cadmium	7440-43-9	1.10E-03	3.52E-05	1.54E-04	3.70E-06	**Exceeds**	Yes
Chromium	7440-47-3	1.40E-03	4.48E-05	1.96E-04	3.30E-02	Below	Yes
Cobalt	7440-48-4	8.40E-05	2.69E-06	1.18E-05	3.30E-03	Below	Yes
Manganese	7439-96-5	3.80E-04	1.22E-05	5.34E-05	6.70E-02	Below	Yes
Molybdenum	7439-98-7	1.10E-03	3.52E-05	1.54E-04	3.33E-01	Below	Yes
Selenium	7782-49-2	2.40E-05	7.68E-07	3.36E-06	1.30E-02	Below	Yes
Vanadium	1314-62-1	2.30E-03	7.36E-05	3.22E-04	3.00E-03	Below	No
Zinc	7440-66-6	2.90E-02	9.28E-04	4.06E-03	3.33E-01	Below	No
Barium	7440-39-3	4.40E-03	1.41E-04	6.18E-04	3.30E-02	Below	No
Copper	7440-50-8	8.50E-04	2.72E-05	1.19E-04	1.30E-02	Below	No
		Total Non-Metal HAPs	6.02E-02	2.64E-01			
		Total Metal HAPs	2.13E-04	9.33E-04			
		Total HAPs	0.06	0.26			

Notes:

[1] Criteria Pollutants as stated in Cleaver Brooks Boiler Expected Emission Data for Model CB(LE). PM emission factor is assumed to equal PM10.

[2] Lead Emission factor from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-2. Emission factor units is lb/10^6 SCF.

[3] Toxic Air Pollutants (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3).

[4] Polycyclic Organic Matter (POM) is considered as one TAP consisting of benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, and benzo(a)pyrene. Compounds constituting POM are designated as *.

[5] Metals from Natural Gas Combustion (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4).

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 2

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Boiler 2 Input (SCF/hr)	Boiler 2 Input (SCF/yr)	Boiler 2 Emission Rate[6,7,8] (metric ton/yr)	Boiler 2 Emission Rate[6,7,8] (ton/year)
CO_2	53.02	1.028E-03	40 CFR 98 Subpart C	32,019	280,486,440	15,287.79	16,851.73
N_2O	1.0E-04	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-02	3.175E-02
CH_4	1.0E-03	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-01	3.175E-01
CO2e			40 CFR 98 Part A			15,302.77	16,868.24

Notes

[6]Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[8]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)

Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 =	1.00
GWP CH_4 =	21.00
GWP N_2O =	310.00

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 3

Boiler Heat Input (MMBTU/hr)	32.659
Manufacturer	Cleaver Brooks
Model No.	CBLE-700-800
Fuel Type	Natural Gas
Natural Gas Fuel Heat Value (BTU/SCF)	1,020
Natural Gas Use (10^6 scf/hr)	0.0320
Annual Operation (hrs/yr)	8,760

Cleaver Brooks Boiler Expected Emission Data for Model CB(LE)

Criteria Pollutant	Emission Factor[1] (lb/MM Btu)	Emission Rate (lb/hr)	Emission Rate (ton/year)
Total Particulate Matter (PM)	0.010	0.33	1.45
Nitrogen Oxides (NOx)	0.071	2.32	10.16
Sulfur Dioxide (SO_2)	0.0006	0.02	0.09
Carbon Monoxide (CO)	0.036	1.18	5.17
VOC	0.004	0.13	0.57
Lead[2]	5.00E-04	1.60E-05	7.01E-05

PM gr/scf at 3% O2 = PM lb/MMBTU x (20.9-3)/20.9 x 7000 gr/1 lb x 1/f Factor for NG dscf/MMBTU

PM gr/scf at 3% O2 **0.007 gr/dscf**

where:

f factor for NG = 8710 dscf/MMBTU 40 CFR Part 75 specifies a Fd value of 8,710 dscf/mmBtu

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 3

Toxic Air Pollutants Non-metals [3]	CAS No.	EPA AP-42 Natural Gas Emission Factor ($lb/10^6$ scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	Emission Rate vs. EL	CAA 112(b) HAP?
Pentane	109-66-0	2.60E+00	8.32E-02	3.64E-01	1.18E+02	Below	No
Benzene	71-43-2	2.10E-03	6.72E-05	2.94E-04	8.00E-04	Below	Yes
3-Methylchloranthrene	56-49-5	1.80E-06	5.76E-08	2.52E-07	2.50E-06	Below	Yes
Benzo(a)pyrene*	50-32-8	1.20E-06	3.84E-08	1.68E-07	2.00E-06	Below	Yes
Formaldehyde	50-00-0	7.50E-02	2.40E-03	1.05E-02	5.10E-04	**Exceeds**	Yes
POM (7-PAH)[4]			3.65E-07	1.60E-06	2.00E-06	Below	Yes
Hexane	110-54-3	1.80E+00	5.76E-02	2.52E-01	1.20E+01	Below	Yes
Naphthalene	91-20-3	6.10E-04	1.95E-05	8.54E-05	9.10E-05	Below	Yes
Toluene	108-88-3	3.40E-03	1.09E-04	4.77E-04	2.50E+01	Below	Yes
2-Methylnapthalene	97-57-6	2.40E-05	7.68E-07	3.36E-06			Yes
7, 12 - Dimethylbenz(a)anthracene		1.60E-05	5.12E-07	2.24E-06			Yes
Acenaphthene	83-32-9	1.80E-06	5.76E-08	2.52E-07			Yes
Acenaphyhylene	203-96-8	1.80E-06	5.76E-08	2.52E-07			Yes
Anthracene	120-12-7	2.40E-06	7.68E-08	3.36E-07			Yes
Dichlorobenzene	25321-22-6	1.20E-03	3.84E-05	1.68E-04			Yes
Flouranthene	206-44-0	3.00E-06	9.60E-08	4.20E-07			Yes
Fluorene	86-73-7	2.80E-06	8.96E-08	3.92E-07			Yes
Phenanthrene	85-01-8	1.70E-05	5.44E-07	2.38E-06			Yes
Benzo(a)anthracene*	56-55-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(b)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.84E-08	1.68E-07			Yes
Benzo(k)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Chrysene*	218-01-9	1.80E-06	5.76E-08	2.52E-07			Yes
Dibenzo(a,h)anthracene*	53-70-3	1.20E-06	3.84E-08	1.68E-07			Yes
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	5.76E-08	2.52E-07			Yes

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 3

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Boiler 3 Input (SCF/hr)	Boiler 3 Input (SCF/yr)	Boiler 3 Emission Rate[6,7,8] (metric ton/yr)	Boiler 3 Emission Rate[6,7,8] (ton/year)
CO_2	53.02	1.028E-03	40 CFR 98 Subpart C	32,019	280,486,440	15,287.79	16,851.73
N_2O	1.0E-04	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-02	3.175E-02
CH_4	1.0E-03	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-01	3.175E-01
CO2e			40 CFR 98 Part A			15,302.77	16,868.24

Notes

[6]Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[8]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)

Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 =	1.00
GWP CH_4 =	21.00
GWP N_2O =	310.00

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 3

Toxic Air Pollutants Metals [5]	CAS Number	Emission Factor (lb/10^6 scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	PTE Emission Rate vs. EL	CAA 112(b) HAP?
Mercury	7439-97-6	2.60E-04	8.32E-06	3.64E-05			Yes
Arsenic	7440-38-2	2.00E-04	6.40E-06	2.80E-05	1.50E-06	**Exceeds**	Yes
Nickel	7440-02-0	2.10E-03	6.72E-05	2.94E-04	2.75E-05	**Exceeds**	Yes
Beryllium	7440-41-7	1.20E-05	3.84E-07	1.68E-06	2.80E-05	Below	Yes
Cadmium	7440-43-9	1.10E-03	3.52E-05	1.54E-04	3.70E-06	**Exceeds**	Yes
Chromium	7440-47-3	1.40E-03	4.48E-05	1.96E-04	3.30E-02	Below	Yes
Cobalt	7440-48-4	8.40E-05	2.69E-06	1.18E-05	3.30E-03	Below	Yes
Manganese	7439-96-5	3.80E-04	1.22E-05	5.34E-05	6.70E-02	Below	Yes
Molybdenum	7439-98-7	1.10E-03	3.52E-05	1.54E-04	3.33E-01	Below	Yes
Selenium	7782-49-2	2.40E-05	7.68E-07	3.36E-06	1.30E-02	Below	Yes
Vanadium	1314-62-1	2.30E-03	7.36E-05	3.22E-04	3.00E-03	Below	No
Zinc	7440-66-6	2.90E-02	9.28E-04	4.06E-03	3.33E-01	Below	No
Barium	7440-39-3	4.40E-03	1.41E-04	6.18E-04	3.30E-02	Below	No
Copper	7440-50-8	8.50E-04	2.72E-05	1.19E-04	1.30E-02	Below	No
		Total Non-Metal HAPs	6.02E-02	2.64E-01			
		Total Metal HAPs	2.13E-04	9.33E-04			
		Total HAPs	0.06	0.26			

Notes:

[1] Criteria Pollutants as stated in Cleaver Brooks Boiler Expected Emission Data for Model CB(LE). PM emission factor is assumed to equal PM10.

[2] Lead Emission factor from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-2. Emission factor units is lb/10^6 SCF.

[3] Toxic Air Pollutants (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3).

[4] Polycyclic Organic Matter (POM) is considered as one TAP consisting of benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, and benzo(a)pyrene. Compounds constituting POM are designated as *.

[5] Metals from Natural Gas Combustion (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4).

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 4

Boiler Heat Input (MMBTU/hr)	32.659
Manufacturer	Cleaver Brooks
Model No.	CBLE-700-800
Fuel Type	Natural Gas
Natural Gas Fuel Heat Value (BTU/SCF)	1,020
Natural Gas Use (10^6 scf/hr)	0.0320
Annual Operation (hrs/yr)	8,760

Cleaver Brooks Boiler Expected Emission Data for Model CB(LE)

Criteria Pollutant	Emission Factor[1] (lb/MM Btu)	Emission Rate (lb/hr)	Emission Rate (ton/year)
Total Particulate Matter (PM)	0.010	0.33	1.45
Nitrogen Oxides (NOx)	0.071	2.32	10.16
Sulfur Dioxide (SO_2)	0.0006	0.02	0.09
Carbon Monoxide (CO)	0.036	1.18	5.17
VOC	0.004	0.13	0.57
Lead[2]	5.00E-04	1.60E-05	7.01E-05

PM gr/scf at 3% O2 = PM lb/MMBTU x (20.9-3)/20.9 x 7000 gr/1 lb x 1/f Factor for NG dscf/MMBTU

PM gr/scf at 3% O2 **0.007 gr/dscf**

where:

f factor for NG = 8710 dscf/MMBTU 40 CFR Part 75 specifies a Fd value of 8,710 dscf/mmBtu

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 4

Toxic Air Pollutants Non-metals [3]	CAS No.	EPA AP-42 Natural Gas Emission Factor (lb/10^6 scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	Emission Rate vs. EL	CAA 112(b) HAP?
Pentane	109-66-0	2.60E+00	8.32E-02	3.64E-01	1.18E+02	Below	No
Benzene	71-43-2	2.10E-03	6.72E-05	2.94E-04	8.00E-04	Below	Yes
3-Methylchloranthrene	56-49-5	1.80E-06	5.76E-08	2.52E-07	2.50E-06	Below	Yes
Benzo(a)pyrene*	50-32-8	1.20E-06	3.84E-08	1.68E-07	2.00E-06	Below	Yes
Formaldehyde	50-00-0	7.50E-02	2.40E-03	1.05E-02	5.10E-04	**Exceeds**	Yes
POM (7-PAH)[4]			3.65E-07	1.60E-06	2.00E-06	Below	Yes
Hexane	110-54-3	1.80E+00	5.76E-02	2.52E-01	1.20E+01	Below	Yes
Naphthalene	91-20-3	6.10E-04	1.95E-05	8.54E-05	9.10E-05	Below	Yes
Toluene	108-88-3	3.40E-03	1.09E-04	4.77E-04	2.50E+01	Below	Yes
2-Methylnapthalene	97-57-6	2.40E-05	7.68E-07	3.36E-06			Yes
7, 12 - Dimethylbenz(a)anthracene		1.60E-05	5.12E-07	2.24E-06			Yes
Acenaphthene	83-32-9	1.80E-06	5.76E-08	2.52E-07			Yes
Acenaphyhylene	203-96-8	1.80E-06	5.76E-08	2.52E-07			Yes
Anthracene	120-12-7	2.40E-06	7.68E-08	3.36E-07			Yes
Dichlorobenzene	25321-22-6	1.20E-03	3.84E-05	1.68E-04			Yes
Flouranthene	206-44-0	3.00E-06	9.60E-08	4.20E-07			Yes
Fluorene	86-73-7	2.80E-06	8.96E-08	3.92E-07			Yes
Phenanthrene	85-01-8	1.70E-05	5.44E-07	2.38E-06			Yes
Benzo(a)anthracene*	56-55-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(b)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.84E-08	1.68E-07			Yes
Benzo(k)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Chrysene*	218-01-9	1.80E-06	5.76E-08	2.52E-07			Yes
Dibenzo(a,h)anthracene*	53-70-3	1.20E-06	3.84E-08	1.68E-07			Yes
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	5.76E-08	2.52E-07			Yes

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 4

Toxic Air Pollutants Metals [5]	CAS Number	Emission Factor (lb/10^6 scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	PTE Emission Rate vs. EL	CAA 112(b) HAP?
Mercury	7439-97-6	2.60E-04	8.32E-06	3.64E-05			Yes
Arsenic	7440-38-2	2.00E-04	6.40E-06	2.80E-05	1.50E-06	**Exceeds**	Yes
Nickel	7440-02-0	2.10E-03	6.72E-05	2.94E-04	2.75E-05	**Exceeds**	Yes
Beryllium	7440-41-7	1.20E-05	3.84E-07	1.68E-06	2.80E-05	Below	Yes
Cadmium	7440-43-9	1.10E-03	3.52E-05	1.54E-04	3.70E-06	**Exceeds**	Yes
Chromium	7440-47-3	1.40E-03	4.48E-05	1.96E-04	3.30E-02	Below	Yes
Cobalt	7440-48-4	8.40E-05	2.69E-06	1.18E-05	3.30E-03	Below	Yes
Manganese	7439-96-5	3.80E-04	1.22E-05	5.34E-05	6.70E-02	Below	Yes
Molybdenum	7439-98-7	1.10E-03	3.52E-05	1.54E-04	3.33E-01	Below	Yes
Selenium	7782-49-2	2.40E-05	7.68E-07	3.36E-06	1.30E-02	Below	Yes
Vanadium	1314-62-1	2.30E-03	7.36E-05	3.22E-04	3.00E-03	Below	No
Zinc	7440-66-6	2.90E-02	9.28E-04	4.06E-03	3.33E-01	Below	No
Barium	7440-39-3	4.40E-03	1.41E-04	6.18E-04	3.30E-02	Below	No
Copper	7440-50-8	8.50E-04	2.72E-05	1.19E-04	1.30E-02	Below	No
		Total Non-Metal HAPs	6.02E-02	2.64E-01			
		Total Metal HAPs	2.13E-04	9.33E-04			
		Total HAPs	0.06	0.26			

Notes:

[1] Criteria Pollutants as stated in Cleaver Brooks Boiler Expected Emission Data for Model CB(LE). PM emission factor is assumed to equal PM10.

[2] Lead Emission factor from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-2. Emission factor units is lb/10^6 SCF.

[3] Toxic Air Pollutants (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3).

[4] Polycyclic Organic Matter (POM) is considered as one TAP consisting of benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, and benzo(a)pyrene. Compounds constituting POM are designated as *.

[5] Metals from Natural Gas Combustion (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4).

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 4

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Boiler 4 Input (SCF/hr)	Boiler 4 Input (SCF/yr)	Boiler 4 Emission Rate[6,7,8] (metric ton/yr)	Boiler 4 Emission Rate[6,7,8] (ton/year)
CO_2	53.02	1.028E-03	40 CFR 98 Subpart C	32,019	280,486,440	15,287.79	16,851.73
N_2O	1.0E-04	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-02	3.175E-02
CH_4	1.0E-03	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-01	3.175E-01
CO2e			40 CFR 98 Part A			15,302.77	16,868.24

Notes

[6]Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[8]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)

Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 =	1.00
GWP CH_4 =	21.00
GWP N_2O =	310.00

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 5

Boiler Heat Input (MMBTU/hr)	32.659
Manufacturer	Cleaver Brooks
Model No.	CBLE-700-800
Fuel Type	Natural Gas
Natural Gas Fuel Heat Value (BTU/SCF)	1,020
Natural Gas Use (10^6 scf/hr)	0.0320
Annual Operation (hrs/yr)	8,760

Cleaver Brooks Boiler Expected Emission Data for Model CB(LE)

Criteria Pollutant	Emission Factor[1] (lb/MM Btu)	Emission Rate (lb/hr)	Emission Rate (ton/year)
Total Particulate Matter (PM)	0.010	0.33	1.45
Nitrogen Oxides (NOx)	0.071	2.32	10.16
Sulfur Dioxide (SO_2)	0.0006	0.02	0.09
Carbon Monoxide (CO)	0.036	1.18	5.17
VOC	0.004	0.13	0.57
Lead[2]	5.00E-04	1.60E-05	7.01E-05

PM gr/scf at 3% O2 = PM lb/MMBTU x (20.9-3)/20.9 x 7000 gr/1 lb x 1/f Factor for NG dscf/MMBTU

PM gr/scf at 3% O2 **0.007 gr/dscf**

where:

f factor for NG = 8710 dscf/MMBTU 40 CFR Part 75 specifies a Fd value of 8,710 dscf/mmBtu

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 5

Toxic Air Pollutants Non-metals [3]	CAS No.	EPA AP-42 Natural Gas Emission Factor (lb/10^6 scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	Emission Rate vs. EL	CAA 112(b) HAP?
Pentane	109-66-0	2.60E+00	8.32E-02	3.64E-01	1.18E+02	Below	No
Benzene	71-43-2	2.10E-03	6.72E-05	2.94E-04	8.00E-04	Below	Yes
3-Methylchloranthrene	56-49-5	1.80E-06	5.76E-08	2.52E-07	2.50E-06	Below	Yes
Benzo(a)pyrene*	50-32-8	1.20E-06	3.84E-08	1.68E-07	2.00E-06	Below	Yes
Formaldehyde	50-00-0	7.50E-02	2.40E-03	1.05E-02	5.10E-04	**Exceeds**	Yes
POM (7-PAH)[4]			3.65E-07	1.60E-06	2.00E-06	Below	Yes
Hexane	110-54-3	1.80E+00	5.76E-02	2.52E-01	1.20E+01	Below	Yes
Naphthalene	91-20-3	6.10E-04	1.95E-05	8.54E-05	9.10E-05	Below	Yes
Toluene	108-88-3	3.40E-03	1.09E-04	4.77E-04	2.50E+01	Below	Yes
2-Methylnapthalene	97-57-6	2.40E-05	7.68E-07	3.36E-06			Yes
7, 12 - Dimethylbenz(a)anthracene		1.60E-05	5.12E-07	2.24E-06			Yes
Acenaphthene	83-32-9	1.80E-06	5.76E-08	2.52E-07			Yes
Acenaphyhylene	203-96-8	1.80E-06	5.76E-08	2.52E-07			Yes
Anthracene	120-12-7	2.40E-06	7.68E-08	3.36E-07			Yes
Dichlorobenzene	25321-22-6	1.20E-03	3.84E-05	1.68E-04			Yes
Flouranthene	206-44-0	3.00E-06	9.60E-08	4.20E-07			Yes
Fluorene	86-73-7	2.80E-06	8.96E-08	3.92E-07			Yes
Phenanthrene	85-01-8	1.70E-05	5.44E-07	2.38E-06			Yes
Benzo(a)anthracene*	56-55-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(b)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.84E-08	1.68E-07			Yes
Benzo(k)fluoranthene*	205-82-3	1.80E-06	5.76E-08	2.52E-07			Yes
Chrysene*	218-01-9	1.80E-06	5.76E-08	2.52E-07			Yes
Dibenzo(a,h)anthracene*	53-70-3	1.20E-06	3.84E-08	1.68E-07			Yes
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06	5.76E-08	2.52E-07			Yes

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 5

Toxic Air Pollutants Metals [5]	CAS Number	Emission Factor (lb/10^6 scf)	Emission Rate (lb/hr)	Emission Rate (ton/year)	IDAPA 58.01.01.585/586 EL (lb/hr)	PTE Emission Rate vs. EL	CAA 112(b) HAP?
Mercury	7439-97-6	2.60E-04	8.32E-06	3.64E-05			Yes
Arsenic	7440-38-2	2.00E-04	6.40E-06	2.80E-05	1.50E-06	**Exceeds**	Yes
Nickel	7440-02-0	2.10E-03	6.72E-05	2.94E-04	2.75E-05	**Exceeds**	Yes
Beryllium	7440-41-7	1.20E-05	3.84E-07	1.68E-06	2.80E-05	Below	Yes
Cadmium	7440-43-9	1.10E-03	3.52E-05	1.54E-04	3.70E-06	**Exceeds**	Yes
Chromium	7440-47-3	1.40E-03	4.48E-05	1.96E-04	3.30E-02	Below	Yes
Cobalt	7440-48-4	8.40E-05	2.69E-06	1.18E-05	3.30E-03	Below	Yes
Manganese	7439-96-5	3.80E-04	1.22E-05	5.34E-05	6.70E-02	Below	Yes
Molybdenum	7439-98-7	1.10E-03	3.52E-05	1.54E-04	3.33E-01	Below	Yes
Selenium	7782-49-2	2.40E-05	7.68E-07	3.36E-06	1.30E-02	Below	Yes
Vanadium	1314-62-1	2.30E-03	7.36E-05	3.22E-04	3.00E-03	Below	No
Zinc	7440-66-6	2.90E-02	9.28E-04	4.06E-03	3.33E-01	Below	No
Barium	7440-39-3	4.40E-03	1.41E-04	6.18E-04	3.30E-02	Below	No
Copper	7440-50-8	8.50E-04	2.72E-05	1.19E-04	1.30E-02	Below	No
		Total Non-Metal HAPs	6.02E-02	2.64E-01			
		Total Metal HAPs	2.13E-04	9.33E-04			
		Total HAPs	0.06	0.26			

Notes:

[1] Criteria Pollutants as stated in Cleaver Brooks Boiler Expected Emission Data for Model CB(LE). PM emission factor is assumed to equal PM10.

[2] Lead Emission factor from EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-2. Emission factor units is lb/10^6 SCF.

[3] Toxic Air Pollutants (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3).

[4] Polycyclic Organic Matter (POM) is considered as one TAP consisting of benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, and benzo(a)pyrene. Compounds constituting POM are designated as *.

[5] Metals from Natural Gas Combustion (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4).

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Natural Gas Boiler 5

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Boiler 5 Input (SCF/hr)	Boiler 5 Input (SCF/yr)	Boiler 5 Emission Rate[6,7,8] (metric ton/yr)	Boiler 5 Emission Rate[6,7,8] (ton/year)
CO_2	53.02	1.028E-03	40 CFR 98 Subpart C	32,019	280,486,440	15,287.79	16,851.73
N_2O	1.0E-04	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-02	3.175E-02
CH_4	1.0E-03	1.028E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	32,019	280,486,440	2.88E-01	3.175E-01
CO2e			40 CFR 98 Part A			15,302.77	16,868.24

Notes

[6]Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7]Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[8]CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)

Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 =	1.00
GWP CH_4 =	21.00
GWP N_2O =	310.00

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Calorlix Boiler 8

Boiler Heat Input (MMBtu/hr)	8
Model No.	Calorix
Primary Fuel Type	Biogas
Max Biogas Production (scf/day) (based on highest expected sulfate concentration)	140,588
Biogas Heat Value (Btu/scf)	600
Biogas Primary Fuel Use (10^6 scf/hr)	0.0059
Secondary Fuel Type	Natural Gas
Secondary Fuel Heat Value (Btu/scf)	1,020
Secondary Fuel Use (10^6 scf/hr)	0.0078
Max Heat Input from Biogas (MMBtu/hr)	3.54
Operation (hrs/yr)	8,760
Hydrogen Sulfide (H_2S) Biogas Concentration (ppmv)	4,000
H_2S Biogas Concentration (mg/m^3)	5,579
Uncontrolled Max H_2S Mass Feedrate (lb/hr)	2.1
Assumed H_2S Conversion for SO_2 Emissions	100%

Note: That Boiler only can operate one fuel type at a time. The worse case emissions are used between the two fuel types.

Criteria Pollutant	Emission Factor [1]		Uncontrolled Potential to Emit							
			Primary Fuel - Biogas			Secondary Fuel - Natural Gas			Worst-Case Fuel Operation	
			Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate
	(lb/10^6 scf)	(lb/MM Btu)	(lb/hr)	(lb/yr)	(ton/yr)	(lb/hr)	(lb/yr)	(ton/yr)	(lb/hr)	(ton/yr)
Total Particulate Matter (PM) [2]	7.60E+00	7.45E-03	0.026	228	0.1	0.060	526	0.3	0.06	0.30
Nitrogen Oxides (NOx)	5.00E+01	4.90E-02	0.173	1,515	0.8	0.392	3,434	1.7	0.39	1.70
Sulfur Dioxide (SO_2) [3]	6.00E-01	5.88E-04	3.948	34,584	17.3	0.005	44	0.0	3.95	17.30
Carbon Monoxide (CO)	8.40E+01	8.24E-02	0.292	2,558	1.3	0.659	5,773	2.9	0.66	2.90
VOC	5.50E+00	5.39E-03	0.019	166	0.1	0.043	377	0.2	0.04	0.20
Lead	5.00E-04	4.90E-07	1.73E-06	1.52E-02	7.60E-06	3.92E-06	3.43E-02	1.72E-05	3.92E-06	1.72E-05

Toxic Air Pollutants - H_2S	CAS No.	Emission Factor [4]	Controlled Potential to Emit								
			Primary Fuel - Biogas			Secondary Fuel - Natural Gas			Worst-Case Fuel Operation	IDAPA 58.01.01.585/586 - EL (lb/hr)	PTE Emission Rate vs. EL
			Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate		
		(% Destruction)	(lb/hr)	(lb/yr)	(ton/yr)	(lb/hr)	(lb/yr)	(ton/yr)	(lb/hr)		
Hydrogen sulfide	7783-06-4	98%	4.20E-02	9.58E+03	4.29E+00				4.20E-02	9.33E-01	Below

Toxic Air Pollutants - Non-metals [7]	CAS No.	EPA AP-42 Natural Gas Emission Factor	SCAQMD [8] Digester Gas Emission Factor	Uncontrolled Potential to Emit									
				Primary Fuel - Biogas [6]			Secondary Fuel - Natural Gas			Worst-Case Fuel Operation		IDAPA 58.01.01.585/586 - EL	PTE Emission Rate vs. EL
				Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate			
		(lb/10^6 scf)	(lb/10^6 scf)	(lb/hr)	(lb/yr)	(ton/yr)	(lb/hr)	(lb/yr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	
3-Methylchloranthrene	56-49-5	1.80E-06		1.06E-08	9.29E-05	4.65E-08	1.40E-08	1.23E-04	6.15E-08	1.40E-08	6.15E-08	2.50E-06	Below
Ammonia	7664-41-7		3.20E+00	1.89E-02	1.66E+02	8.30E-02				1.89E-02	8.30E-02	1.20E+00	Below
Benzene	71-43-2	2.10E-03	5.80E-03	3.42E-05	3.00E-01	1.50E-04	1.64E-05	1.44E-01	7.20E-05	3.42E-05	1.50E-04	8.00E-04	Below
Benzo(a)pyrene*	50-32-8	1.20E-06		7.08E-09	6.20E-05	3.10E-08	9.36E-09	8.20E-05	4.10E-08	9.36E-09	4.10E-08	2.00E-06	Below
Formaldehyde	50-00-0	7.50E-02	1.23E-02	4.43E-04	3.88E+00	1.94E-03	5.85E-04	5.12E+00	2.56E-03	5.85E-04	2.56E-03	5.10E-04	Exceeds
Hexane	110-54-3	1.80E+00		1.06E-02	9.29E+01	4.65E-02	1.40E-02	1.23E+02	6.15E-02	1.40E-02	6.15E-02	1.20E+01	Below
Naphthalene	91-20-3	6.10E-04		3.60E-06	3.15E-02	1.58E-05	4.76E-06	4.17E-02	2.09E-05	4.76E-06	2.09E-05	9.10E-06	Below
Total PAHs	NA		4.00E-04	2.36E-06	2.07E-02	1.04E-05	NA	NA	NA	2.36E-06	1.04E-05	9.10E-05	Below
Pentane	109-66-0	2.60E+00		1.53E-02	1.34E+02	6.70E-02	2.03E-02	1.78E+02	8.90E-02	2.03E-02	8.90E-02	1.18E+02	Below
Toluene	108-88-3	3.40E-03		2.01E-05	1.76E-01	8.80E-05	2.65E-05	2.32E-01	1.16E-04	2.65E-05	1.16E-04	2.50E+01	Below
Benzo(a)anthracene*	56-55-3	1.80E-06		NA	NA	NA	1.40E-08	1.23E-04	6.15E-08	1.40E-08	6.15E-08	PAH	NA
Benzo(b)fluoranthene*	205-82-3	1.80E-06		NA	NA	NA	1.40E-08	1.23E-04	6.15E-08	1.40E-08	6.15E-08	PAH	NA
Benzo(k)fluoranthene*	205-82-3	1.80E-06		NA	NA	NA	1.40E-08	1.23E-04	6.15E-08	1.40E-08	6.15E-08	PAH	NA
Chrysene*	218-01-9	1.80E-06		NA	NA	NA	1.40E-08	1.23E-04	6.15E-08	1.40E-08	6.15E-08	PAH	NA
Dibenzo(a,h)anthracene*	53-70-3	1.20E-06		NA	NA	NA	1.40E-08	1.23E-04	6.15E-08	1.40E-08	6.15E-08	PAH	NA
Indeno(1,2,3-cd)pyrene*	193-39-5	1.80E-06		NA	NA	NA	9.36E-09	8.20E-05	4.10E-08	9.36E-09	4.10E-08	PAH	NA
POM (7-PAH)[9]				NA	NA	NA	1.40E-08	1.23E-04	6.15E-08	1.40E-08	6.15E-08	PAH	NA
							8.87E-08	7.77E-04	3.89E-07	8.87E-08	3.89E-07	2.00E-06	Below
									Total	0.05	0.24		

Toxic Air Pollutants-Metals	CAS Number	Emission Factor [5]	Uncontrolled Potential to Emit									
			Primary Fuel - Biogas			Secondary Fuel - Natural Gas			Worst-Case Fuel Operation		IDAPA 58.01.01.585/586 - EL (lb/hr)	PTE Emission Rate vs. EL
			Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate	Emission Rate			
		(lb/10^6 scf)	(lb/hr)	(lb/yr)	(ton/yr)	(lb/hr)	(lb/yr)	(ton/yr)	(lb/hr)	(ton/yr)		
Arsenic	7440-38-2	2.00E-04	1.18E-06	1.03E-02	5.15E-06	1.56E-06	1.37E-02	6.85E-06	1.56E-06	6.85E-06	1.50E-06	Exceeds
Barium	7440-39-3	4.40E-03	2.60E-05	2.26E-01	1.14E-04	3.43E-05	3.00E-01	1.50E-04	3.43E-05	1.50E-04	3.30E-02	Below
Beryllium	7440-41-7	1.20E-05	7.08E-08	6.20E-04	3.10E-07	9.36E-08	8.20E-04	4.10E-07	9.36E-08	4.10E-07	2.80E-05	Below
Cadmium	7440-43-9	1.10E-03	6.49E-06	5.69E-02	2.85E-05	8.58E-06	7.52E-02	3.76E-05	8.58E-06	3.76E-05	3.70E-06	Exceeds
Chromium	7440-47-3	1.40E-03	8.26E-06	7.24E-02	3.62E-05	1.09E-05	9.55E-02	4.78E-05	1.09E-05	4.78E-05	3.30E-02	Below
Cobalt	7440-48-4	8.40E-05	4.95E-07	4.34E-03	2.17E-06	6.55E-07	5.74E-03	2.87E-06	6.55E-07	2.87E-06	3.30E-03	Below
Copper	7440-50-8	8.50E-04	5.02E-06	4.40E-02	2.20E-05	6.63E-06	5.81E-02	2.91E-05	6.63E-06	2.91E-05	1.30E-02	Below
Manganese	7439-96-5	3.80E-04	2.24E-06	1.96E-02	9.80E-06	2.96E-06	2.59E-02	1.30E-05	2.96E-06	1.30E-05	6.70E-02	Below
Mercury	7439-97-6	2.60E-04	1.53E-06	1.34E-02	6.70E-06	2.03E-06	1.78E-02	8.90E-06	2.03E-06	8.90E-06	1.00E-03	Below
Molybdenum	7439-98-7	1.10E-03	6.49E-06	5.69E-02	2.85E-05	8.58E-06	7.52E-02	3.76E-05	8.58E-06	3.76E-05	3.33E-01	Below
Nickel	7440-02-0	2.10E-03	1.24E-05	1.09E-01	5.45E-05	1.64E-05	1.44E-01	7.20E-05	1.64E-05	7.20E-05	2.75E-05	Below
Selenium	7782-49-2	2.40E-05	1.42E-07	1.24E-03	6.20E-07	1.87E-07	1.64E-03	8.20E-07	1.87E-07	8.20E-07	1.30E-02	Below
Vanadium	1314-62-1	2.30E-03	1.36E-05	1.19E-01	5.95E-05	1.79E-05	1.57E-01	7.85E-05	1.79E-05	7.85E-05	3.00E-03	Below
Zinc	7440-66-6	2.90E-02	1.71E-04	1.50E+00	7.50E-04	2.26E-04	1.98E+00	9.90E-04	2.26E-04	9.90E-04	3.33E-01	Below
								Total	3.37E-04	1.48E-03		

Notes:

[1] Criteria Pollutants, small uncontrolled boilers (EPA AP-42, Section 1.4 Natural Gas Combustion, Tables 1.4-1 and 1.4-2). Because emission factor is in lb/MM Btu heat input basis, same factor applied for biogas and natural gas combustion.

[2] PM emission factor is assumed to equal PM_{10}.

[3] SO_2 Emission factor for biogas assumes 100% conversion of H_2S to SO_2 ; manufacturer SO_2 emission factor not used

[4] Conservatively estimated H_2S destruction based on engineering judgement and combustion properties of H_2S

[5] Biogas toxic air pollutant emissions based on EPA AP-42 emission factors, times ratio of Biogas heat value to natural gas heat value, unless higher emission factor available through SCAQMD.

[6] Emission factors from "General Instruction Book for the 2003 - 2004 Annual Emissions Reporting Program", Table 1D (Default Emission factors for Digester Gas Combustion) South Coast Air Quality Managment District (SCAQMD).

[7] Toxic Air Pollutants (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-3).

[8] Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. Designated by [4]

[9] Metals from Natural Gas Combustion (EPA AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-4).

Total Non-Metal HAP	1.47E-02	6.43E-02
Total Metal HAPs	5.15E-05	2.26E-04
Total HAPs	1.48E-02	6.45E-02

Green House Gases	EF (Natural Gas) kg/MMBtu	HHV	Reference	Input (SCF/hr)	Input (SCF/yr)	Emission Rate[6,7,8] (metric ton/yr)	(ton/year)
CO_2	53.02	1.026E-03	40 CFR 98 Subpart C Equation C-1 Tier 1	7,800	68,328,000	3,724.19	4,105.17
N_2O	1.0E-04	1.026E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	7,800	68,328,000	7.02E-03	7.74E-03
CH_4	1.0E-03	1.026E-03	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	7,800	68,328,000	7.02E-02	7.74E-02
CO_2e			40 CFR 98 Part A			3,727.84	4,109.19

Worst Case

Green House Gases	EF (Biogas) kg/MMBtu	HHV	Reference	Input (SCF/hr)	Input (SCF/yr)	Emission Rate[6,7,8] (metric ton/yr)	(ton/year)
CO_2	52.07	6.41E-04	40 CFR 98 Subpart C Equation C-1 Tier 1	5,900	51,684,000	2,263.29	2,494.82
N_2O	6.3E-04	6.41E-04	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	5,900	51,684,000	2.74E-02	3.02E-02
CH_4	3.2E-03	6.41E-04	40 CFR 98 Subpart C Equation C-8 (Tiers 1 & 3)	5,900	51,684,000	1.39E-01	1.53E-01
CO_2e			40 CFR 98 Part A			2,274.70	2,507.40

Notes

[6] Eqn C-1: $CO_2 = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of 40 CFR Part 98 Subpart C (kg CO_2/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[7] Eqn C-8: CH_4 or $N_2O = 1 \times 10^{-3} \times Fuel \times HHV \times EF$

Fuel = Volume of fuel combusted per year, (SCF/Year)

EF = Fuel-specific default CH_4 or N_2O emission factor for natural gas, from Table C-2 of 40 CFR Part 98 Subpart C (kg CH_4 or N_2O/MMBTU)

HHV = Default high heat value of the fuel, from Table C-1 of 40 CFR Part 98 Subpart C (MMBTU/SCF)

1×10^{-3} = Conversion Factor from Kilograms to Metric Tons

[8] CO_2e = (GWP CO_2 x CO_2 metric ton/yr) + (GWP CH4 x CH4 metric ton/yr) + (GWP N_2O x N_2O metric ton/yr)

Global Warming Potential (GWP) for Selected GHG - 40 CFR 98 Subpart A, Table A-1

GWP CO_2 =	1.00
GWP CH_4 =	21.00
GWP N_2O =	310.00

AgroFarma Twin Falls - Chobani Facilty Emissions Estimate
Anhydrous Ammonia Refrigeration System

Anhydrous Ammonia Refrigeration System (11 Chillers)	Capacity (lb/hr)	Emission Rate[1] (lb emitted/SCC unit)	Ammonia Emissions (lb/hr)	IDAPA 58.01.01.585/586 TAP Screening Levels (lb/hr)	Estimated Emissions Exceed TAP Screening Levels (Yes/No)
Chillers	10,800	0.30	1.62		
Total Emissions			1.62	1.20	Yes

Notes:

[1] Emission rates derived from AP-42, Section 9, Development and Selection of Ammonia Emission Factors, Table 7.3, low density prill coolers. Emission factors represent the combined refrigerant loss types of intial, operating, intermittent, and disposal. SCC unit refers to tons produced.

AgroFarma Twin Falls - Chobani Facility Emissions Estimate
Cooling Tower

Cooling Tower Parameters

Number of One Cell Towers[1]	8
Total Water Flow Rate (gal/min)[1]	22,365
Flow of cooling water (lbs/hr)	11,191,446
TDS of blowdown (mg/l or ppmw)[1]	1,500
Flow of dissolved solids (lbs/hr)	16,787
Fraction of flow producing PM_{10} drift[2]	0.300
Control efficiency of drift eliminators (gal drift/gal flow)[1]	0.00005
Number of cells per tower (outlet fans)[1]	1
Height at cell release (ft)[1]	77
Discharge flow per cell (ACFM)[1]	314,078
Diameter of each cell (ft)[1]	13
Area of cell discharge (ft^2)[1]	139.6
Average Temperature of cell discharge (degF)[1]	80.3
Exit Velocity (ft/s):	37.50

Cooling Tower Emissions

PM Emissions (lb/hr)	PM Emissions (ton/yr)	PM_{10} Emissions (lb/hr)	PM_{10} Emissions (ton/yr)	$PM_{2.5}$ Emissions (lb/hr)[3]	$PM_{2.5}$ Emissions (ton/yr)[3]
0.84	3.68	0.25	1.10	0.25	1.10

PM-10 Emissions from Each Cooling Tower (lb/hr) 0.03

Notes:
Emission Calculation Method from AP 42, Sect.13.4-1

[1] As provided in the Environmental Permitting Data, Shambaugh & Son Job 170993, 12/192011 (attachment to email from Matt Meier/MSKTD & Associates on December 20,2011)

[2] From "Calculating Realistic PM_{10} Emissions From Cooling Towers" (J. Reisman, G. Frisbie). Presented at 2001 AWMA Annual Meeting.

[3] Assumes that $PM_{2.5}$ emissions are equal to PM_{10} emissions.

AgroFarma Twin Falls - Chobani Facility Emissions Estimate
Flare Emissions

Heat Input (MMBtu/hr)	3.52	
Manufacturer	Varec	
Fuel Type	Biogas	
Biogas Heat Value (Btu/scf)	600	Based on engineering judgement of USAB operating near pH of 7
Max Biogas Production (scf/day) (based on highest expected sulfate concentration)	140,888	Based on a maximum daily reactor loading of 25,000 lb/day of COD
Biogas Primary Fuel Use (MMscf/hr)	0.0059	
Operation (hrs/yr)	8,760	
Biogas Primary Fuel Use (MMscf/yr)	52	
Hydrogen Sulfide (H_2S) Biogas Concentration (ppmv)	4,000	Based on engineering judgement and Agro Farma's NY plant COD/S ratio
H_2S Biogas Concentration (mg/m^3)	5,579	
Uncontrolled H_2S Mass Feedrate (lb/hr)	2.0	
Assumed H_2S Conversion for SO_2 Emissions	90%	

Criteria Pollutant	CAS No.	Emission Factor [1]		Uncontrolled Potential to Emit: Emission Rate (lb/hr)	Emission Rate (lb/yr)	Emission Rate (ton/yr)
Total Particulate Matter (PM) [2]		7.6	lb MM cf NG	0.04	350	0.18
Nitrogen Oxides (NOx)		0.068	lb/MM Btu	0.24	2,102	1.05
Sulfur Dioxide (SO_2) [3]		H_2S / SO_2 Mass Balance		3.38	29,609	14.80
Carbon Monoxide (CO)		0.37	lb/MM Btu	1.30	11,388	5.69
VOC		0.06	lb/MM Btu	0.21	1,840	0.92

Toxic Air Pollutants - H_2S	CAS No.	Emission Factor [4] (% Destruction)	Primary Fuel - Biogas, Controlled Potential to Emit: Emission Rate (lb/hr)	Emission Rate (lb/yr)	Emission Rate (ton/yr)	IDAPA 58.01.01.585/586 - EL (lb/hr)	PTE Emission Rate vs. EL	HAP
Hydrogen sulfide*	7783-06-4	90%	2.00E-01	7.88E+03	3.94E+00	9.33E-01	Below	HAP

Toxic Air Pollutants - Others [5]	CAS No.	Digester Gas Emission Factor ($lb/10^6$ scf)	Primary Fuel - Biogas, Uncontrolled Potential to Emit: Emission Rate (lb/hr)	Emission Rate (lb/yr)	Emission Rate (ton/yr)	IDAPA 58.01.01.585/586 - EL (lb/hr)	PTE Emission Rate vs. EL	HAP
Ammonia	7664-41-7	3.20E+00	1.89E-02	1.66E+02	8.30E-02	1.20E+00	Below	
Benzene*	71-43-2	1.59E-01	9.36E-04	8.22E+00	4.11E-03	8.00E-04	Exceeds	HAP
Formaldehyde*	50-00-0	1.17E+00	6.90E-03	6.04E+01	3.02E-02	5.10E-04	Exceeds	HAP
Total PAHs	na	1.40E-02	8.26E-05	7.24E-01	3.62E-04	2.00E-06	Exceeds	
Total HAPS			0.21		0.03			

Notes:

[1] Criteria pollutants emission rates from AP-42, Section 13.5 (Industrial Flares) w/ exception of PM and SO_2 (see below).

[2] PM is assumed to equal $PM_{2.5}$ and PM_{10} emissions based on natural gas combustion, per AP-42 Natural Gas Combution, Table 1.4-2, due to extreme range and concentration-based format of industrial flare PM factors

[3] SO_2 Emission factor for biogas assumes 90% conversion of H_2S to SO_2 .

[4] Conservatively estimated H_2S destruction based on engineering judgement and combustion properties of H_2S

[5] Emission factors from "General Instruction Book for the 2003 - 2004 Annual Emissions Reporting Program", Tables 4 and 10. South Coast Air Quality Management District (SCAQMD).

[*] Hazardous air pollutant (HAP)

GHG Emissions

Compound[6]	Emissions (metric tons)	GWP	CO2e (metric tons/year)	CO2e short tons/year
CO_2	2277.13	1	2,277.13	2,510.08
CH_4	0.1399	21	2.94	3.24
N_2O	0.02755	310	8.54	9.41
Total	2277.30		2,288.61	2,522.73

For CO2, Use Equation C-1 from 40 CFR 98 Subpart C:
CO2 = 1x10-3 x Fuel x HHV x EF

CO2 = Annual CO2 mass emissions in Metric Tons	=	2277.13
Fuel = Volume of fuel used (standard cubic feet)	=	52,000,000
HHV = High Heat Value from Table C-1 (mmBTU/scf)	=	0.000841
EFCO2 = Emission factor (kg/mmBTU)	=	52.07

For CH4 and N2O, Use Equation C-8 from 40 CFR 98 Subpart C:
CH4, N2O = 1x10-3 x Fuel x HHV x EF

CH4 = Annual CH4 mass emissions in Metric Tons	=	0.1399
N2O = Annual N2O mass emissions in Metric Tons	=	0.02755
Fuel = Volume of fuel used (standard cubic feet)	=	52,000,000
HHV = High Heat Value from Table C-1 (mmBTU/scf)	=	0.000841
EFCH4 = Emission factor (kg/mmBTU)	=	3.20E-03
EFN2O = Emission factor (kg/mmBTU)	=	6.30E-04

Notes

[6] 40 CFR 98.32 - For stationary fuel combustion sources only, report CO2, CH4, and N2O

GWP = Global Warming Potential - 40 CFR 98 Subpart A, Table A-1

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Emergency Generator 1

Generator Name	**Cummins**	EPA Tier 3
Model No.	**QSB7-G5 NR3**	
Engine Power Rating (hp)	324	241 KW
Fuel Type	Distillate #2	
- maximum sulfur content	0.0015%	Ultra low sulfur diesel fuel
Maximum Firing Rate (gals/hr)	28.0	
Maximum Heat Input Rating (Btu/hr)	3,920,000	
Uncontrolled Max Hours of Operation	500	
Controlled Max Hours of Operation	100	Testing frequency will be limited to 2-hr per week
Annual Firing Rate (gals/yr)	14,000	
Heat Capacity of Fuel (Btu/gal)	140,000	

			Uncontrolled Potential to Emit			Controlled Potential to Emit[1]		
Pollutant	**Emission Factor (g/hp-hr)**	**Emission Factor (lb/MMBtu)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**
Particulate Matter (PM_{10})[1]	0.15		0.11	55.00	0.03	0.11	11.00	0.01
Particulate Matter ($PM_{2.5}$)[2]	0.15		0.11	55.00	0.03	0.11	11.00	0.01
Nitrogen Oxides (NOx)[3]	3.0		2.14	1070.00	0.54	2.14	214.00	0.11
Sulfur Oxides (SO_2)[4]		0.001515	0.01	5.00	2.50E-03	0.01	1.00	5.00E-04
Carbon Monoxide (CO)[5]	2.6		1.86	930.00	0.47	1.86	186.00	0.09
TOC as VOC[6]	0.05		0.04	20.00	0.01	0.04	4.00	2.00E-03

			Uncontrolled Potential to Emit			Controlled Potential to Emit					
Toxics[7]	**CAS Number**	**Emission Factor (lb/MMBtu)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**	**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**	**IDAPA 58.01.01.585/586 - EL (lb/hr)**	**PTE Emission Rate vs. EL**	**HAP**
Benzene	71-43-2	9.33E-04	3.66E-03	1.83E+00	9.15E-04	3.66E-03	3.66E-01	1.83E-04	8.00E-04	**Exceeds**	HAP
Formaldehyde	50-00-0	1.18E-03	4.63E-03	2.32E+00	1.16E-03	4.63E-03	4.63E-01	2.32E-04	5.10E-04	**Exceeds**	HAP
Naphthalene[8]	91-20-3	8.48E-05	3.32E-04	1.66E-01	8.30E-05	1.89E-05	1.89E-03	9.45E-07	9.10E-05	**Exceeds**	HAP
Toluene	108-88-3	4.09E-04	1.60E-03	8.00E-01	4.00E-04	1.60E-03	1.60E-01	8.00E-05	2.50E+01	Below	HAP
o-Xylenes	1330-20-7	2.85E-04	1.12E-03	5.60E-01	2.80E-04	1.12E-03	1.12E-01	5.60E-05	2.90E+01	Below	HAP
Acetaldehyde	75-07-0	7.67E-04	3.01E-03	1.51E+00	7.55E-04	3.01E-03	3.01E-01	1.51E-04	3.00E-03	**Exceeds**	HAP
Acrolein	107-02-8	9.25E-05	3.63E-04	1.82E-01	9.10E-05	3.63E-04	3.63E-02	1.82E-05	1.70E-02	Below	HAP
1,3-Butadiene	106-99-0	3.91E-05	1.53E-04	7.65E-02	3.83E-05	1.53E-04	1.53E-02	7.65E-06	2.40E-05	**Exceeds**	HAP
Benzo(g,h,i) perylene		4.89E-07	1.92E-06	9.60E-04	4.80E-07	1.92E-06	1.92E-04	9.60E-08	PAH	NA	
Benz(a)anthracene	56-55-3	1.68E-06	6.59E-06	3.30E-03	1.65E-06	6.59E-06	6.59E-04	3.30E-07	PAH	NA	
Benzo(b)fluoranthene	205-99-2	9.91E-08	3.88E-07	1.94E-04	9.70E-08	3.88E-07	3.88E-05	1.94E-08	PAH	NA	
Benzo(k)fluoranthene	205-82-3	1.55E-07	6.08E-07	3.04E-04	1.52E-07	6.08E-07	6.08E-05	3.04E-08	PAH	NA	
Chrysene	218-01-9	3.53E-07	1.38E-06	6.90E-04	3.45E-07	1.38E-06	1.38E-04	6.90E-08	PAH	NA	
Dibenzo(a,h)anthracene	53-70-3	5.83E-07	2.29E-06	1.15E-03	5.75E-07	2.29E-06	2.29E-04	1.15E-07	PAH	NA	
Indeno(1,2,3-cd)pyrene	193-39-5	3.75E-07	1.47E-06	7.35E-04	3.68E-07	1.47E-06	1.47E-04	7.35E-08	PAH	NA	
Benzo(a)pyrene	50-32-8	1.88E-07	7.37E-07	3.69E-04	1.85E-07	7.37E-07	7.37E-05	3.69E-08	PAH	NA	
Total PAH[9]			1.35E-05	6.74E-03	3.37E-06	1.35E-05	1.35E-03	6.74E-07	2.00E-06	**Exceeds**	HAP
Total HAPS			**0.015**		**0.004**	**0.01**		**0.001**			

Notes:

[1] Controlled PTE is based on 100 hours per year

[2] PM_{10} is assumed to equal PM (PM emission factor based on *Cummins EPA Tier 3 Exhaust Emission Compliance Statement*)

[3] $PM_{2.5}$ is assumed to equal PM (PM emission factor based on *Cummins EPA Tier 3 Exhaust Emission Compliance Statement*)

[4] NOx is assumed to equal NOx + HC (NOx emission factor based on *Cummins EPA Tier 3 Exhaust Emission Compliance Statement*)

[4] SO_2 is based on AP-42, Section 3.4 Large Stationary Diesel and All Stationary Dual-Fuel Engines, Table 3.4-1, 10/96, multiplied by sulfur content of fuel

[5] CO emission factor is based on *Cummins EPA Tier 3 Exhaust Emission Compliance Statement*

[6] VOC emission factors as stated in the Cummins Power Generation Exhaust Emission Data Sheet for a 324 HP Cummins Inc. QSB7-G5 NR3

[7] Toxic emission factors derived from EPA AP-42, Section 3.3 Gasoline and Diesel Industrial Engines, Table 3.3-2, 10/96

[8] Naphthalene is based on an annual average

[9] Polynuclear aromatic hydrocarbons is the sum of benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and benzo(a)pyrene

GHG Emissions

Compound10	Emissions (metric tons)	GWP	CO2e (metric tons/year)	(short tons/year)
CO_2	144.96	1	144.96	159.79
CH_4	0.0059	21	0.12	0.13
N_2O	0.0012	310	0.37	0.41
Total	144.97		145.45	160.33

For CO2, Use Equation C-1 from 40 CFR 98 Subpart C:

CO2 = 1x10-3 x Fuel x HHV x EF

CO2 = Annual CO2 mass emissions in Metric Tons	=	144.96
Fuel = Volume of fuel used (gallons)	=	14,000
HHV = High Heat Value from Table C-1 (mmBTU/gal)	=	0.14
EFCO2 = Emission factor (kg/mmBTU)	=	73.96

For CH4 and N2O, Use Equation C-8 from 40 CFR 98 Subpart C:

CH4, N2O = 1x10-3 x Fuel x HHV x EF

CH4 = Annual CH4 mass emissions in Metric Tons	=	0.0059
N2O = Annual N2O mass emissions in Metric Tons	=	0.0012
Fuel = Volume of fuel used (gallons)	=	14,000
HHV = High Heat Value from Table C-1 (mmBTU/Gal)	=	0.14
EFCH4 = Emission factor (kg/mmBTU)	=	3.00E-03
EFN2O = Emission factor (kg/mmBTU)	=	6.00E-04

Notes

[10] 40 CFR 98.32 - For stationary fuel combustion sources only, report CO2, CH4, and N2O

GWP = Global Warming Potential - 40 CFR 98 Subpart A, Table A-1

AgroFarma Twin Falls - Chobani Facility Emissions Estimate

Emergency Generator 2

Generator Name	Caterpillar	EPA Tier 3
Model No.	C15 ATAAC (ENGINE)	
Engine Power Rating (hp)	470	350 kW
Fuel Type	Distillate #2	
- maximum sulfur content	0.0015%	Ultra low sulfur diesel fuel
Maximum Firing Rate (gals/hr)	28.6	100% load
Maximum Heat Input Rating (Btu/hr)	4,004,000	
Uncontrolled Max Hours of Operation	500	
Controlled Max Hours of Operation	100	Testing frequency will be limited to 2-hr per week
Annual Firing Rate (gals/yr)	14,300	
Heat Capacity of Fuel (Btu/gal)	140,000	

Pollutant	Emission Factor (g/hp-hr)	Emission Factor (lb/HP-hr)	Uncontrolled Potential to Emit			Controlled Potential to Emit[1]		
			Emission Rate (lb/hr)	Emission Rate (lb/yr)	Emission Rate (ton/yr)	Emission Rate (lb/hr)	Emission Rate (lb/yr)	Emission Rate (ton/yr)
Particulate Matter (PM_{10})[1]	0.046		0.05	25.00	0.01	0.05	5.0	2.50E-03
Particulate Matter ($PM_{2.5}$)[1]	0.05		0.05	25.00	0.01	0.05	5.0	2.50E-03
Nitrogen Oxides (NOx)[1]	3.34		3.46	1730.00	0.87	3.46	346	0.17
Sulfur Oxides (SO_2)[2]		0.000012	5.64E-03	2.82	1.41E-03	5.64E-03	0.56	2.80E-04
Carbon Monoxide (CO)[1]	0.5		0.52	260.00	0.13	0.52	52	0.03
TOC as VOC[1]	0.04		0.04	20.00	0.01	0.04	4.00	2.00E-03

Toxics[3]	CAS Number	Emission Factor (lb/MMBtu)	Uncontrolled Potential to Emit			Controlled Potential to Emit			IDAPA 58.01.01.5 85/586 - EL (lb/hr)	PTE Emission Rate vs. EL	HAP
			Emission Rate (lb/hr)	Emission Rate (lb/yr)	Emission Rate (ton/yr)	Emission Rate (lb/hr)	Emission Rate (lb/yr)	Emission Rate (ton/yr)			
Benzene	71-43-2	9.33E-04	3.74E-03	1.87E+00	9.35E-04	3.74E-03	3.74E-01	1.87E-04	8.00E-04	Exceeds	HAP
Formaldehyde	50-00-0	1.18E-03	4.72E-03	2.36E+00	1.18E-03	4.72E-03	4.72E-01	2.36E-04	5.10E-04	Exceeds	HAP
Naphthalene[4]	91-20-3	8.48E-05	3.40E-04	1.70E-01	8.50E-05	1.94E-05	1.94E-03	9.70E-07	9.10E-05	Exceeds	HAP
Toluene	108-88-3	4.09E-04	1.64E-03	8.20E-01	4.10E-04	1.64E-03	1.64E-01	8.20E-05	2.50E+01	Below	HAP
o-Xylenes	1330-20-7	2.85E-04	1.14E-03	5.70E-01	2.85E-04	1.14E-03	1.14E-01	5.70E-05	2.90E+01	Below	HAP
Acetaldehyde	75-07-0	7.67E-04	3.07E-03	1.54E+00	7.70E-04	3.07E-03	3.07E-01	1.54E-04	3.00E-03	Exceeds	HAP
Acrolein	107-02-8	9.25E-05	3.70E-04	1.85E-01	9.25E-05	3.70E-04	3.70E-02	1.85E-05	1.70E-02	Below	HAP
1,3-Butadiene	106-99-0	3.91E-05	1.57E-04	7.85E-02	3.93E-05	1.57E-04	1.57E-02	7.85E-06	2.40E-05	Exceeds	HAP
Benzo(g,h,i) perylene		4.89E-07	1.96E-06	9.80E-04	4.90E-07	1.96E-06	1.96E-04	9.80E-08	PAH	NA	
Benz(a)anthracene	56-55-3	1.68E-06	6.73E-06	3.37E-03	1.69E-06	6.73E-06	6.73E-04	3.37E-07	PAH	NA	
Benzo(b)fluoranthene	205-99-2	9.91E-08	3.97E-07	1.99E-04	9.95E-08	3.97E-07	3.97E-05	1.99E-08	PAH	NA	
Benzo(k)fluoranthene	205-82-3	1.55E-07	6.21E-07	3.11E-04	1.56E-07	6.21E-07	6.21E-05	3.11E-08	PAH	NA	
Chrysene	218-01-9	3.53E-07	1.41E-06	7.05E-04	3.53E-07	1.41E-06	1.41E-04	7.05E-08	PAH	NA	
Dibenzo(a,h)anthracene	53-70-3	5.83E-07	2.33E-06	1.17E-03	5.85E-07	2.33E-06	2.33E-04	1.17E-07	PAH	NA	
Indeno(1,2,3-cd)pyrene	193-39-5	3.75E-07	1.50E-06	7.50E-04	3.75E-07	1.50E-06	1.50E-04	7.50E-08	PAH	NA	
Benzo(a)pyrene	50-32-8	1.88E-07	7.53E-07	3.77E-04	1.89E-07	7.53E-07	7.53E-05	3.77E-08	PAH	NA	
Total PAH[5]			1.37E-05	6.88E-03	3.45E-06	1.37E-05	1.37E-03	6.88E-07	2.00E-06	Exceeds	HAP
Total HAPS			**0.015**		**0.004**	**0.015**		**7.44E-04**			

Notes:

[1] Controlled PTE is based on 100 hours per year

[2] Nox, PM, CO, and VOC emission factor based on emission rates stated in the CAT® C15 ATAAC diesel engine specs for a EPA Tier 3 engine for emergency standby use. PM_{10} and $PM_{2.5}$ is assumed to equal PM.

[5] SO2 emissions are based on the complete conversion of 0.0015 wt% (~ 15 ppm) sulfur in the ultra low sulfur diesel fuel (from EPA AP-42, Table 3.4-1)

[3] Toxic emission factors derived from EPA AP-42, Section 3.3 Gasoline and Diesel Industrial Engines, Table 3.3-2, 10/96

[4] Naphthalene is based on an annual average

[5] Polynuclear aromatic hydrocarbons is the sum of benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene,dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and benzo(a)pyrene

GHG Emissions

Compound[6]	Emissions (metric tons)	GWP	CO2e (metric tons/year)	CO2e (short tons/year)
CO_2	148.07	1	148.07	163.22
CH_4	0.0060	21	0.13	0.14
N_2O	0.0012	310	0.37	0.41
Total	148.08		148.57	163.77

For CO2, Use Equation C-1 from 40 CFR 98 Subpart C:
CO2 = 1x10-3 x Fuel x HHV x EF

CO2 = Annual CO2 mass emissions in Metric Tons	=	148.07
Fuel = Volume of fuel used (gallons)	=	14,300
HHV = High Heat Value from Table C-1 (mmBTU/gal)	=	0.14
EFCO2 = Emission factor (kg/mmBTU)	=	73.96

For CH4 and N2O, Use Equation C-8 from 40 CFR 98 Subpart C:
CH4, N2O = 1x10-3 x Fuel x HHV x EF

CH4 = Annual CH4 mass emissions in Metric Tons	=	0.0060
N2O = Annual N2O mass emissions in Metric Tons	=	0.0012
Fuel = Volume of fuel used (gallons)	=	14,300
HHV = High Heat Value from Table C-1 (mmBTU/Gal)	=	0.14
EFCH4 = Emission factor (kg/mmBTU)	=	3.00E-03
EFN2O = Emission factor (kg/mmBTU)	=	6.00E-04

Notes

[6] 40 CFR 98.32 - For stationary fuel combustion sources only, report CO2, CH4, and N2O

GWP = Global Warming Potential - 40 CFR 98 Subpart A, Table A-1

Agro-Farma Twin Falls **Rule 786 PM Standard for Incineration**	**IDAPA**
Biogas combustion rate (scfm) [1]	98
Biogas methane content	55%
Methane density (lb/ft^3) [2]	0.0448
Hourly methane combustion rate ("refuse" lb/hr) [3]	145
Flare PM emission rate (lb/hr) [1]	0.04
PM emission rate (lb PM/lb refuse)	2.76E-04
PM emission rate (lb PM/ 100 lb refuse)	0.028
IDAPA 58.01.01.786.01 standard (lb PM / 100 lb refuse)	0.2
Compliance with IDAPA standard	Yes

[1] See flare emission calculations

[2] Perry's Chemical Engineers' Handbook, Sixth Edition, Table 3-20

[3] (Biogas combustion (scfm)) x (60 min/hr) x (methane %)

Appendix D

Manufacturer Data

Emergency Gen 1

Power Generation

EPA Tier 3 Exhaust Emission Compliance Statement 175DSGAD

60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with the Tier 3 emissions limits of U.S EPA New Source Performance Standards for Stationary Emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO 8178 D2.

Engine Manufacturer:	Cummins Inc.
EPA Certificate Number:	CEX-STATCI-11-20
Effective Date:	10/14/2010
Date Issued:	10/14/2010
EPA Diesel Engine Family:	BCEXL0409AAD
CARB Executive Order:	

Engine Information:

Model:	Cummins Inc. QSB7-G5 NR3	Bore:	4.21 in. (107 mm)
Engine Nameplate HP:	324		
Type:	4 Cycle, In-line, 6 Cylinder Diesel	Stroke:	4.88 in. (124 mm)
Aspiration:	Turbocharged and CAC	Displacement:	408 cu. in. (6.7 liters)
Compression Ratio:	17.2:1		
Emission Control Device:	Turbocharged and CAC		

U.S. Environmental Protection Agency NSPS Stationary Emergency Tier 3 Limits

COMPONENT	(All values are Grams per HP-Hour)
NOx + HC (Oxides of Nitrogen as NO2 + Non Methane Hydrocarbons)	3.0
CO (Carbon Monoxide)	2.6
PM (Particulate Matter)	0.15

Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

Emergency Gen 1

Model: DSGAD
Frequency: 60
Fuel type: Diesel
KW rating: 175 standby
160 prime
Emissions level: EPA NSPS Stationary Emergency Tier 3

> Generator set data sheet

Our energy working for you.™

Cummins Power Generation

Exhaust emission data sheet:	**EDS-1123**
Exhaust emission compliance sheet:	**EPA-1172**
Sound performance data sheet:	**MSP-1101**
Cooling performance data sheet:	**MCP-209**
Prototype test summary data sheet:	**PTS-285**
Standard set-mounted radiator cooling outline:	**A035C611**
Optional set-mounted radiator cooling outline:	
Optional heat exchanger cooling outline:	
Optional remote radiator cooling outline:	

Fuel consumption	**Standby kW (kVA)**				**Prime kW (kVA)**				**Continuous kW (kVA)**
Ratings	175 (219)				160 (200)				
Load	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**	**Full**
US gph	4.49	7.96	10.51	13.06	4.39	7.34	9.89	12.14	
L/hr	17.0	30.1	39.8	49.4	16.6	27.8	37.4	45.9	

Engine	**Standby rating**	**Prime rating**	**Continuous rating**
Engine manufacturer	Cummins		
Engine model	QSB7-G5 NR3		
Configuration	Cast iron, in-line, 6 cylinder		
Aspiration	Turbocharged and air-to-air aftercooled		
Gross engine power output, kWm (bhp)	242 (324)	208 (279)	
BMEP at set rated load, kPa (psi)	1979 (287)	1813 (263)	
Bore, mm (in)	107 (4.21)		
Stroke, mm (in)	124 (4.88)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	7.4 (1464)		
Compression ratio	17.2:1		
Lube oil capacity, L (qt)	17.5 (18.5)		
Overspeed limit, rpm	2100		
Regenerative power, kW	19		

Fuel flow		
Maximum fuel flow, L/hr (US gph)	106 (28)	
Maximum fuel flow with C174, L/hr (US gph)		
Maximum fuel inlet restriction with clean filter, mm Hg (in Hg)	127 (5)	
Maximum return restriction, mm Hg (in Hg)	152 (6)	

Air	Standby rating	Prime rating	Continuous rating
Combustion air, m^3/min (scfm)	15.2 (537)	15.0 (529)	
Maximum air cleaner restriction with clean filter, kPa (in H_2O)	3.7 (15)		
Alternator cooling air, m^3/min (cfm)	41.3 (1460)		

Exhaust			
Exhaust flow at set rated load, m^3/min (cfm)	37.4 (1320)	36.3 (1282)	
Exhaust temperature, ° C (° F)	481 (897)	471 (880)	
Maximum back pressure, kPa (in H_2O)	10 (40)	10 (40)	

Standard set-mounted radiator cooling			
Ambient design, ° C (° F)	50 (122)		
Fan load, kW_m (HP)	9.7 (13.0)		
Coolant capacity (with radiator), L (US Gal)	23 (6.1)	23 (6.1)	
Cooling system air flow, m^3/min (scfm)	351 (12400)		
Total heat rejection, MJ/min (Btu/min)	8.66 (8203)	7.78 (7366)	
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)		

Optional set-mounted radiator cooling			
Ambient design, °C (°F)			
Fan load, kW_m (HP)			
Coolant capacity (with radiator), L (US Gal.)			
Cooling system air flow, m^3/min (scfm)			
Total heat rejection, MJ/min (Btu/min)			
Maximum cooling air flow static restriction, kPa (in. H_2O)			

Optional heat exchanger cooling			
Set coolant capacity, L (US Gal.)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Heat rejected, aftercooler circuit, MJ/min (Btu/min)			
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum raw water pressure, jacket water circuit, kPa (psi)			
Maximum raw water pressure, aftercooler circuit, kPa (psi)			
Maximum raw water pressure, fuel circuit, kPa (psi)			
Maximum raw water flow, jacket water circuit, L/min (US Gal/min)			
Maximum raw water flow, aftercooler circuit, L/min (US Gal/min)			
Maximum raw water flow, fuel circuit, L/min (US Gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, jacket water circuit, L/min (US Gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, aftercooler circuit, L/min (US Gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, fuel circuit, L/min (US Gal/min)			
Raw water delta P at min flow, jacket water circuit, kPa (psi)			
Raw water delta P at min flow, aftercooler circuit, kPa (psi)			
Raw water delta P at min flow, fuel circuit, kPa (psi)			
Maximum jacket water outlet temp, °C (°F)			
Maximum aftercooler inlet temp, °C (°F)			
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)			

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D-3515 (3/11)

Power Generation

Emergency Gen 1

Converting SCFM to ACFM

$ACFM = SCFM * (P_{std} / P_{act}) * (T_{act} / T_{std})$

Where

ACFM = Actual cubic feet per minute
SCFM = Standard cubic feet per minute
Pstd = Standard absolute air pressure (psia)
Pact = Absolute pressure at the actual level (psia)
Tact = Actual ambient air temperature (°R)
Tstd = Standard temperature (°R)

Cummins 175 kW Standby Generator

SCFM =	1320	set at manufacturer rated load		
Pstd =	14.7	psia		
Pact =	12.8	psia (3,700 ft elevation)		
Tact =	897	°F (exhaust)	1357	°R
Tstd =	77	°F	537	°R

Cummins Generator ACFM = 3831

Stack Corrections from height of 5 ft to 10 ft based on engineering judgement:

3831 acfm	3,256	15% reduction in flowrate
897 F	762	15% reduction in exit temp

Emergency Gen 2

DIESEL GENERATOR SET

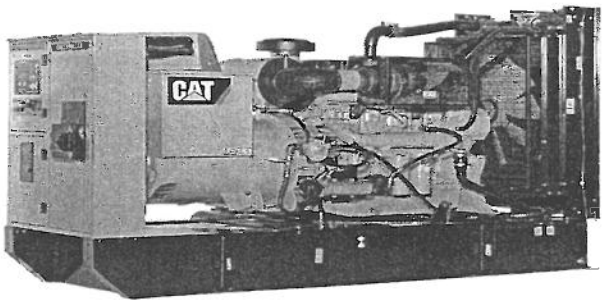

Image shown may not reflect actual package.

STANDBY
350 ekW 438 kVA
60 Hz 1800 rpm 480 Volts

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

FUEL/EMISSIONS STRATEGY
- EPA Certified for Stationary Emergency Application (EPA Tier 3 emissions levels)

DESIGN CRITERIA
- The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

UL 2200
- UL 2200 listed packages available. Certain restrictions may apply. Consult with your Cat® Dealer.

FULL RANGE OF ATTACHMENTS
- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER
- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
- Cat dealers provide extensive post sale support including maintenance and repair agreements
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- The Cat® S•O•S℠ program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® C15 ATAAC DIESEL ENGINE
- Utilizes ACERT™ Technology
- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic engine control

CAT GENERATOR
- Matched to the performance and output characteristics of Cat engines
- Load adjustment module provides engine relief upon load impact and improves load acceptance and recovery time
- UL 1446 Recognized Class H insulation

CAT EMCP 4 CONTROL PANELS
- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

STANDBY 350 ekW 438 kVA

60 Hz 1800 rpm 480 Volts

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Light Duty Air filter • Service indicator	[ ] Single element air filter [ ] Dual element air filter [ ] Heavy-duty dual element air filter with precleaner [ ] Air inlet shut-off
Cooling	• Radiator package mounted • Coolant level sight gauge • Coolant drain line with valve • Fan and belt guards • Cat® Extended Life Coolant	[ ] Radiator duct flange [ ] Low coolant level sensor
Exhaust	• Dry exhaust manifold • Stainless steel flex fittings with split-cuff connection • Exhaust flange outlet	[ ] Industrial [ ] Residential [ ] Critical Mufflers [ ] Manifold and turbocharger guards [ ] Elbows and through-wall kits
Fuel	• Primary fuel filter with integral water separator • Secondary fuel filters • Fuel priming pump • Engine fuel transfer pump • Fuel cooler* • Flexible fuel lines *Not included with packages without radiators	[ ] Integral dual wall UL listed fuel tank base [ ] Sub-base dual wall UL listed fuel tank base [ ] Manual transfer pump [ ] Fuel level switch
Generator	• Class H insulation • Self excited (SE) • Class H temperature rise • VR6 voltage regulator with 3-phase sensing with load adjustment module • IP23 protection	[ ] Oversize generators [ ] Permanent magnet excitation (PMG) [ ] Internal excited (IE) [ ] Cat digital voltage regulator (CDVR) with kVAR/PF [ ] Anti-condensation space heaters [ ] Coastal Insulation Protection (CIP) [ ] Reactive droop
Power Termination	• Power Center houses EMCP controller and power/control terminations (rear mounted) • Power terminal strips (NEMA or IEC mechanical lug holes) • Segregated low voltage wiring termination panel • IP22 protection • Bottom cable entry	[ ] Power Center mounting option (right side) [ ] Circuit breakers,UL listed, 3 pole (80% & 100% Rated) [ ] Circuit breakers,IEC compliant,3-4 pole(100% Rated) [ ] Multiple circuit breaker options [ ] C.B. Shunt trips [ ] C.B. Auxiliary contacts
Governor	• ADEM™A4	[ ] Load share module
Control Panel	• EMCP 4.1 (Rear-mounted in Power Center) • Speed adjustment • Voltage adjustment • Emergency stop pushbutton	[ ] EMCP 4.2 [ ] Local annunciator module (NFPA 99/110) [ ] Remote annunicator module (NFPA 99/110) [ ] Digital I/O module
Lube	• Lubricating oil • Oil drain line with valves • Oil filter and dipstick • Fumes disposal • Lube oil level indicator • Oil cooler	[ ] Oil temperature sensor [ ] Manual sump pump
Mounting	• Formed steel narrow base frame • Linear vibration isolation-seismic zone 4	[ ] Oil skid base [ ] Formed steel wide base frame
Starting/Charging	• 24 volt starting motor • 24 volt, 45 amp charging alternator	[ ] Jacket water heater [ ] Block heater [ ] Ether starting aid [ ] Oversize batteries [ ] Battery disconnect switch [ ] Battery chargers (5 or 10 amp) [ ] Batteries with rack and cables
General	• Paint - Caterpillar Yellow except rails and radiators gloss black • Flywheel housing - SAE No.1	[ ] UL 2200 package [ ] CSA Certification [ ] Weather protective enclosure [ ] Sound attenuated protective enclosure

Emergency Gen 2

STANDBY 350 ekW 438 kVA

60 Hz 1800 rpm 480 Volts

SPECIFICATIONS

CAT GENERATOR

Frame size..... LC6114B
Excitation..... Self Excitation
Pitch..... 0.6667
Number of poles..... 4
Number of bearings..... Single bearing
Number of Leads..... 012
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
- Consult your Caterpillar dealer for available voltages
IP Rating..... Drip Proof IP23
Alignment..... Pilot Shaft
Overspeed capability..... 125
Wave form Deviation (Line to Line)..... 2%
Voltage regulator..... Three phase sensing
Voltage regulation..... Less than +/- 1/2% (steady state)
Less than +/- ½% (w/ 3% speed change)
Telephone influence factor..... Less than 50
Harmonic Distortion..... Less than 5%

CAT DIESEL ENGINE

C15 ATAAC, I-6, 4-Stroke Water-cooled Diesel
Bore..... 137.20 mm (5.4 in)
Stroke..... 171.40 mm (6.75 in)
Displacement..... 15.20 L (927.56 in³)
Compression Ratio..... 16.1:1
Aspiration..... Air-to-Air Aftercooled
Fuel System..... MEUI
Governor Type..... Caterpillar ADEM control system

CAT EMCP 4 SERIES CONTROLS

EMCP 4 controls including:
- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:
- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

Warning/shutdown with common LED indication of:
- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level

Programmable protective relaying functions:
- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVAr) (32RV)
- Overcurrent (50/51)

Communications:
- Four digital inputs (4.1)
- Six digital inputs (4.2 only)
- Four relay outputs (Form A)
- Two relay outputs (Form C)
- Two digital outputs
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

Compatible with the following:
- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

STANDBY 350 ekW 438 kVA

60 Hz 1800 rpm 480 Volts

TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM8149	
EPA Certified for Stationary Emergency Application (EPA Tier 3 emissions levels)		
Generator Set Package Performance		
Genset Power rating @ 0.8 pf	437.5 kVA	
Genset Power rating with fan	350 ekW	
Fuel Consumption		
100% load with fan	108.1 L/hr	28.6 Gal/hr
75% load with fan	87.6 L/hr	23.1 Gal/hr
50% load with fan	66.3 L/hr	17.5 Gal/hr
Cooling System[1]		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	720 m³/min	25427 cfm
Engine Coolant capacity with radiator/exp. tank	57.8 L	15.3 gal
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	37.0 L	9.8 gal
Inlet Air		
Combustion air inlet flow rate	35.2 m³/min	1243.1 cfm
Exhaust System		
Exhaust stack gas temperature	492.9 ° C	919.2 ° F
Exhaust gas flow rate	94.4 m³/min	3333.7 cfm
Exhaust flange size (internal diameter)	152.4 mm	6.0 in
Exhaust system backpressure (maximum allowable)	6.8 kPa	27.3 in. water
Heat Rejection		
Heat rejection to coolant (total)	153 kW	8701 Btu/min
Heat rejection to exhaust (total)	423 kW	24056 Btu/min
Heat rejection to atmosphere from engine	76 kW	4322 Btu/min
Heat rejection to atmosphere from generator	24.3 kW	1381.9 Btu/min
Alternator[2]		
Motor starting capability @ 30% voltage dip	880 skVA	
Frame	LC6114B	
Temperature Rise	130 ° C	234 ° F
Lube System		
Sump refill with filter	60.0 L	15.9 gal
Emissions (Nominal)[3]		
NOx g/hp-hr	3.34 g/hp-hr	
CO g/hp-hr	.53 g/hp-hr	
HC g/hp-hr	.04 g/hp-hr	
PM g/hp-hr	.046 g/hp-hr	

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.
[2] Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32. Some packages may have oversized generators with a different temperature rise and motor starting characteristics.
[3] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77°F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

Emergency Gen 2

Converting SCFM to ACFM

$ACFM = SCFM * (P_{std} / P_{act}) * (T_{act} / T_{std})$

Where

ACFM = Actual cubic feet per minute
SCFM = Standard cubic feet per minute
Pstd = Standard absolute air pressure (psia)
Pact = Absolute pressure at the actual level (psia)
Tact = Actual ambient air temperature (°R)
Tstd = Standard temperature (°R)

Caterpillar Emergency Standby Generator (350kW)

SCFM =	3333.70	set at manufacturer rated full load		
Pstd =	14.7	psia		
Pact =	12.8	psia (3,700 ft elevation)		
Tact =	919.2	°F (combined exhaust)	1379.2	°R
Tstd =	77	°C	537	°R

ACFM = 9833

Stack Correctons from height of 5ft to 10ft based on engineering judgement:

9833 acfm
919.2 F

8358 acfm (15% reduction in flowrate)
781 F (15% reduction in ext temp)

Boiler 6

McCormick, Rick/BOI

From: Fettkether, Larry/BOI
Sent: Sunday, October 14, 2012 2:05 PM
To: Page Ian; McCormick, Rick/BOI
Cc: Normandin, Scott/BOI; Salmatanis Mihalis
Subject: RE: Design for heating the Chobani WW

Rick,

Design Change 10/24/12
From derated boiler of
10.2 MMBTU/hr
to 8 MMBTU/hr

For 12 million Btu/hr use:

- *183,000 scf/h exhaust gas incl. 9% water vapour, at 50°C.*
- *18" (or 16") outlet piping , 15 m/s velocity.*
- *The outlet piping is piping, and not a stack like for boiler plants.*

From: Page Ian [mailto:Ian.Page@ovivogwe.com]
Sent: Friday, October 12, 2012 6:08 PM
To: McCormick, Rick/BOI
Cc: Fettkether, Larry/BOI; Normandin, Scott/BOI; Salmatanis Mihalis
Subject: RE: Design for heating the Chobani WW

Rick –

Our biogas team report back as follows for the 8MMBtu/hr (2000 MCal/hr) Calorix™ unit:

- *122,000 scf/h exhaust gas incl. 9% water vapour, at 50°C.* → 2,033 scf/min
- *14" (or 12") outlet piping , 15 m/s velocity.*
- *The outlet piping is piping, and not a stack like for boiler plants.*

Best regards,

Ian C. Page, MScE, P.E.
Vice President, Engineering & Sales
Industrial Wastewater Treatment and Waste-to-Energy Specialist

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OvivoGWE is a related company of GLV and GWE

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2404 Rutland Drive, Austin
Texas, 78758, USA
Tel: +1 512 697 1930
Direct: +1 512 697 1901
Mob: +1 512 590 1664

Boiler 6

Converting SCFM to ACFM

$ACFM = SCFM * (P_{std} / P_{act}) * (T_{act} / T_{std})$

Where

ACFM = Actual cubic feet per minute
SCFM = Standard cubic feet per minute
Pstd = Standard absolute air pressure (psia)
Pact = Absolute pressure at the actual level (psia)
Tact = Actual ambient air temperature (°R)
Tstd = Standard temperature (°R)

Calirex Boiler 6 (10.2 MMBtu/hr)

SCFM =	2033.33	set at manufacturer rated full load		
Pstd =	14.7	psia		
Pact =	12.8	psia (3,700 ft elevation)		
Tact =	122	°F (combined exhaust)	582	°R
Tstd =	77	°C	537	°R

ACFM = 2531

Boiler 6

McCormick, Rick/BOI

To: Fettkether, Larry/BOI
Subject: RE: Design for heating the Chobani WW

From: Page Ian [mailto:Ian.Page@ovivogwe.com]
Sent: Tuesday, September 18, 2012 2:16 PM
To: Fettkether, Larry/BOI
Cc: Nye, Joseph/BOI; Salmatanis Mihalis
Subject: RE: Design for heating the Chobani WW

Larry –

Please see below and attached in response to your recent questions and requests for information.

1. **Reference**

Our Sunkist facility in Ontario, CA included a Calorix unit. The contract operators are willing to provide a reference to CH2MHill/Twin Falls.

Please contact:

Ryan Bonner
VP, Water and Wastewater Services
Environ Strategy Consultants, Inc.
1036 W. Taft Avenue, Suite 200
Orange, CA 92865
(714)919-6521 (Tel)
(618)218-5736 (Cell)
rbonner@environstrategy.com

2. **CALORIX™ air emissions estimate**

Assuming it burns the biogas generated in the ANUBIX™-B UASB:

The biogas composition is as follows: → 166 std m^3/hr → 5,862 $\frac{scf}{hr}$ → 140,688 scf/day

Design biogas flow = 166 Nm^3/h at 80% CH4. The H2S content is 0.25% on average and 0.50 % max. The Calorix is designed for 3000 Mcal/h, so natural gas will need to be added to come to full capacity, but these calculations are for the emissions of the combustion air if (only) biogas is burnt (i.e. so a worst case scenario).

Ian C. Page, MScE, P.E.
Vice President, Engineering & Sales
Industrial Wastewater Treatment and Waste-to-Energy Specialist

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Mob: +1 512 590 1664

Email: ian.page@ovivogwe.com
Web: www.ovivogwe.com


Please consider the environment before printing this email.

The 2nd point of contact is Mihalis Salmatanis; Manager, Operations & Engineering; Industrial Wastewater Treatment and Waste-to-Energy Specialist

2404 Rutland Drive, Austin
Texas, 78758, USA
Tel: +1 512 697 1930
Direct: +1 512 834 6031
Mob: +1 512 716 9517

Email:mihalis.salmatanis@ovivogwe.com

Boiler 6

McCormick, Rick/BOI

To: Salmatanis Mihalis
Subject: RE: H2S Concentration in Calorix Biogas System

From: Salmatanis Mihalis [mailto:Mihalis.Salmatanis@ovivogwe.com]
Sent: Wednesday, November 14, 2012 11:27 AM
To: McCormick, Rick/BOI
Cc: Normandin, Scott/BOI; Page Ian
Subject: Re: H2S Concentration in Calorix Biogas System

Rick,

Based on the wastewater characteristics provided at average and peak conditions, we calculate 2700 ppmv and 4900 ppmv respectively.

Given the average conditions are the expected operating conditions, I think it would be the more relevant value to use for the modeling.

Thanks, Mihalis

Flare

Varec Biogas 244W Series

Waste Gas Burner & Ignition System

The Varec Biogas 244W Series Waste Gas Burner is a highly reliable flare and ignition system ideal for use in burning excess biogas.

INTRODUCTION

The Varec Biogas 244W Series Waste Gas Burner is a highly reliable flare and ignition system. It is developed from systems used extensively in the petroleum industry. The pilot has proven reliability, even in the extremes of climate. The 244W Series is ideal for use in burning excess biogas.

APPLICATION

Excess biogas must be disposed of safely. The gas is flared to avoid an odor nuisance or an explosion hazard. Biogas is generated through the anaerobic digestion of organic solids. It is produced in municipal or industrial anaerobic digesters, lagoons, and municipal landfills. Biogas is typically a highly-moist mixture of gases. It consists of approximately 55 to 70% methane, 25 to 35% carbon dioxide and trace amounts of nitrogen, hydrogen sulfide, and water vapor. The biogas often has a fluctuating flow and BTU value. The 244W Series is designed to operate reliably at low and high flow rates, and is not affected by changes in the biogas BTU value.

BURNERS/FLARES

OPERATION

The Varec Biogas 244WS Series Burner is a state-of-the-art, candle-stick flare. The burner utilizes a patented pilot ignition system. Pilot gas and air are mixed and ignited at ground level, remote from the burner stack. This controlled method results in a stable pilot flame with an ideal gas-to-air ratio. The pilot burns a true stoichiometric, non-smoking flame. It is not affected by changes in the biogas flow rate or BTU content.

The electronics package controls automatic pilot ignition and monitoring. During the ignition cycle, pilot gas is directed to the flame retention nozzle. Pilot gas is also directed to the venturi where air is inspirated. The air/gas mixture is ignited at the venturi outlet. The ignition generates a flame front which travels through the continuous flame line and exits the continuous flame nozzle at the burner tip. Gas flowing in the flame retention nozzle is ignited by this flame front.

A thermocouple is installed in the continuous flame nozzle. When it reaches its temperature setting, the controller shuts off the flame retention pilot to conserve fuel. The pilot in the larger continuous flame nozzle continuously burns to ensure efficient combustion of the biogas, and elimination of irritating odor.

The continuous flame nozzle ignites the waste gas as it is relieved through the burner. Should this pilot go out, an alarm is energized and the controller cycles to re-light the pilot. If unsuccessful after several attempts, a second alarm is activated. The system continues to cycle for re-ignition until an operator changes the controller mode.

DESIGN FEATURES

These 244W Series design includes features that provide reliable and efficient operation. The design provides flow capacities nearly twice that of conventional "pilot-ring" burners.

SPECIFICATIONS

Burning Capacity, FT³/HR (M³/HR) - Maximum Flows

Flow stated for biogas with specific gravity 0.8 with 4" WC inlet pressure at flange connection and .05" WC pressure drop at 60°F (15°C) between the inlet flange and burner tip. Consult factory for flare sizing based on meeting 40 CFR Part 60.18 and Water Environment Federation, Manual of Practice (MOP) No. 8.

Size Code		2	3	4	6	8	0	1
		2"	3"	4"	6"	8"	10"	12"
FT3/HR		3850	11600	22250	51300	88150	150000	250000
M3/HR		109	328	630	1453	2496	4245	7075
MOP 8 Recommended Maximum flow rates*								
FT3/HR		1100	2500	4275	9520	16350	25580	36170
M3/HR		31	71	121	270	463	724	1024

*The Water Environment Federation Manual of Practice Number 8 (MOP 8), copyright 1998 recommends a velocity of no more than 12 feet per second. The maximum flow rates given are based upon Schedule 10 pipe leading up to the burner. Different schedule pipe will have different maximum recommended flow rates.

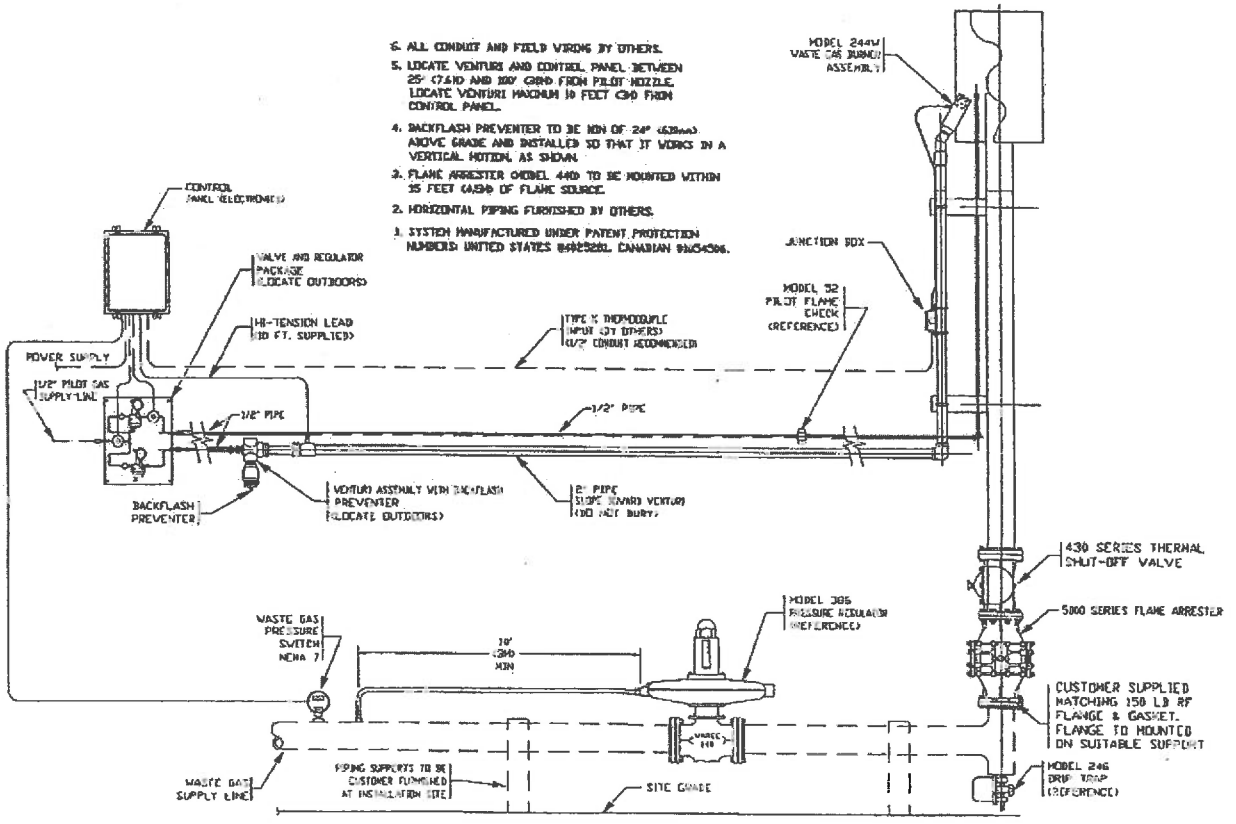

Figure 02: 244WS - Venturi with Varec Biogas 386 Series Regulator and 450 Series Flame Trap Assembly

The 450 Flame Trap Assembly is not designed to support burner weight. Alternate support may be required and is recommended.

Appendix E

Air Dispersion Modeling Protocol with Approval Letter

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 · (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
CURT FRANSEN, DIRECTOR

November 1, 2012

VIA EMAIL

Rick McCormick, P.E.
Project Engineer
CH2M HILL
Boise, Idaho 83702

RE: Modeling Protocol Approval for the Permit to Construct Modification at the Chobani Idaho, Inc. Dairy Processing Facility in Twin Falls, Idaho

Dear Mr. McCormick:

DEQ received a dispersion modeling protocol from you, on behalf of Chobani Idaho, Inc., (Chobani), on October 24, 2012.

The modeling protocol proposes methods and data for use in Class II area ambient air impact analyses in support of a Permit to Construct application to modify Chobani's current PTC. The modification will address Chobani's ownership and operation of the City of Twin Falls wastewater pre-treatment plant (WWPTP) and installation of additional emissions units at the WWPTP.

The Chobani facility's initial PTC was issued on May 4, 2012. The City of Twin Falls WWPTP's initial PTC was issued on July 18, 2012.

The modeling protocol has been reviewed and DEQ has the following comments:

- **Comment 1: Changes to the WWPTP.** Two emissions units permitted by the City of Twin Falls will be owned and operated by Chobani. These emissions units include one open (or candlestick) flare and one 175 kW diesel-fired emergency generator.

  Two new emissions units will be installed at the WWPTP under this permitting project. These emissions units include one 150 kW diesel-fired emergency generator engine and one dual fuel-fired boiler capable of combusting anaerobic digester biogas or natural gas. The boiler will de-rated to 10.2 MMBtu/hr heat input. The WWPTP is located on the Chobani facility's property and all emissions units will be located within Chobani's ambient air boundary.

- **Comment 2: National Ambient Air Quality Standards.** Modeling will not be required to demonstrate compliance with the following NAAQS:

  a) Carbon monoxide, 1-hour average and 8-hour average, and
  b) 3-month rolling average lead.

  Carbon monoxide and lead increases in potential emissions for this project were below Idaho DEQ's Level I modeling thresholds.

  c) PM_{10}, 24-hour average, and
  d) $PM_{2.5}$, annual average.

  The emission increases for PM_{10} and $PM_{2.5}$, annual average, for this project are slightly higher than the Level I de minimis modeling thresholds but modeled impacts for the individual facility PTC projects indicated ambient impacts were small in comparison to the NAAQS.

- **Comment 3: Background Concentrations.** The background concentrations listed in the modeling protocol were provided for the previous Chobani and City of Twin Falls permitting projects. DEQ does not recommend any changes. If a Tier III method for complying with the 1-hour NO_2 SIL and/or NAAQS is used the following hour of day background concentrations in Table 1 may be used for ozone and NO_2.

Table 1. NO_2 Tier III Analysis Ambient Background Values

Hour	Nitrogen Dioxide Concentration ($\mu g/m^3$)[a]	Ozone Concentration (ppb)[b]
1	50.0	27.9
2	48.1	28.5
3	45.7	26.8
4	46.2	24.1
5	56.7	22.1
6	54.9	21.4
7	56.7	19.7
8	60.1	22.8
9	54.9	30.5
10	48.1	37.8
11	39.5	43.8
12	32.6	48.8
13	34.3	53.0
14	34.3	55.0
15	37.8	57.1
16	46.4	57.6
17	49.8	57.1
18	61.8	55.1
19	70.4	49.0
20	85.9	39.0
21	79.0	30.9
22	75.5	28.5
23	63.5	29.4
24	49.8	29.6

[a] Micrograms per cubic meter.
[b] Parts per billion.

Comment 4: Cumulative Ambient Impact Analyses. DEQ does not request that Chobani include The Amalgamated Sugar Company (TASCO) facility as a co-contributing facility for the cumulative $PM_{2.5}$ impact analyses for this project. DEQ may reconsider the requirement to include co-contributing sources for future projects and if current $PM_{2.5}$ emissions inventory data for the TASCO facility becomes available. The $PM_{2.5}$ ambient background concentrations for the 24-hour average and annual averages are believed to be relatively conservative.

DEQ requests that Chobani model TASCO's allowable SO_2 emissions to demonstrate compliance with the 1-hour average SO_2 NAAQS. Please use the same model inputs as used in the City of Twin Falls PTC project, or contact DEQ if you have questions or concerns on the TASCO emission inventory or source exhaust parameters. Nearby source modeling for SO_2, annual average, NAAQS is not required.

The nearby source analysis in the Twin Falls WWPTP modeling demonstration predicted that the 4th high impact at the receptor located along the WWPTP northern ambient air boundary (receptor location at NAD83 UTM coordinates 711,950 meters Easting and 4,713,500 meters Northing) was at 194 $\mu g/m^3$, 1-hour average—or 99% of the NAAQS—including the 33.1 $\mu g/m^3$ background concentration. Considering the addition of the biogas-fired boiler with potential hourly SO_2 emissions of 4.89 lb/hr with exhaust parameters with poorer dispersion characteristics the nearby source analysis is warranted.

DEQ requests that Chobani model TASCO's allowable NO_2 emissions to demonstrate compliance with the 1-hour average NO_2 NAAQS. The TASCO emissions inventory and source parameters have not changed from those provided for Chobani's initial PTC project. Please use the same model inputs as used in Chobani's initial PTC project, or contact DEQ if you have questions or concerns on the TASCO emission inventory or source exhaust parameters. The impact listed below in Table 2 was obtained by running Chobani's model setup with an NO_2 equilibrium value (NO2EQUIL) of 0.90 instead of the 0.80 used in Chobani's initial PTC modeling. A MAXDCONT source apportionment output file pairing impacts in time and space was established for ranks 8-20. Additional rankings would be needed because exceedences of the NAAQS were still predicted at rank 20. Refinements to the analysis may reduce ambient impacts to verify compliance with the 1-hour NO_2 NAAQS.

Table 2. AERMOD MAXDCONT Sensitivity Run NO_2, 1-Hour Average Results

Receptor Location		Rank	Contribution TASCO ($\mu g/m^3$)[b]	Contribution Chobani Facility ($\mu g/m^3$)	Contribution Ambient Background ($\mu g/m^3$)	Contribution ALL ($\mu g/m^3$)
UTM[a] X (meters)	UTM Y (meters)					
712,487.62	4,713,71.8	9th	45.97	67.30	75.54	188.8

a. Universal Transverse Mercator, NAD83 datum.

b. Micrograms per cubic meter.

- **Comment 5: Justification of Release Parameters.** Documentation and justification of release parameters must be provided in the application. Please include the justification for all modeled emission sources because each project is to contain complete stand-alone documentation. In most instances, typical release parameter values should be used rather than extreme values, and should represent the conditions at the point of release to the

atmosphere. Conservative assumed values may be used where supporting documentation is unavailable. Documentation can include manufacturer's specifications sheets or design documents. The application's modeling report should confirm that the orientation of each of the point sources is vertical and uninterrupted, rather than a horizontal release or impeded by a raincap or similar feature.

Provide the assumptions and calculations that were used to calculate any area or volume source parameters in addition to the point source parameter justifications.

The protocol indicated that the rooftop air makeup unit vents were to be modeled as volume sources. DEQ recommends modeling rooftop vents as point sources with release parameters that are appropriate for the design of the vent. The use of the Beta version of AERMOD is approved by DEQ for $PM_{2.5}$ minor source modeling demonstrations for point sources modeled as capped or horizontal releases for this project.

Please provide justification and the assumptions supporting the use of the 7.26 meter stack release height in place of the calculated 5.74 meter release height for the flare in the permit application modeling report.

Will both the flare and the biogas-fired boiler be capable of operating at full capacity on biogas? If an increase in capacity of the anaerobic digester portion of the wastewater treatment is not part of this project and the biogas-fired boiler will operate at full capacity on biogas while the flare operates at partial capacity as a planned scenario, a second partial flare load scenario in the modeling demonstration may be needed. Please contact DEQ modeling staff to discuss this issue if warranted.

Please confirm that the biogas-fired boiler exhaust stack will vent vertically and uninterrupted or treat the stack as a raincapped or horizontal release as appropriate. The use of the Beta algorithms has already been approved for modeling Chobani's air makeup units.

- **Comment 6: Receptor Grid.** The receptor grid proposed appears adequate. However, if DEQ performs a sensitivity analysis using a denser receptor grid and any applicable ambient standards are exceeded, the permit will be denied. Additional densely-spaced receptor grids were used to resolve maximum ambient impacts within the Chobani Café area and north of the Chobani plant along Kimberly Road for Chobani's initial PTC modeling demonstration, and refinement of the receptor grid may be warranted for this project as well.

  The receptor grid should be extended to capture all areas where the project is predicted to have an impact that exceeds the significant contribution levels for $PM_{2.5}$, NO_2, or SO_2.

- **Comment 7: NAAQS Demonstration Topics.** For the 1-hour average SO_2 and NO_2 cumulative NAAQS demonstrations, the MAXDCONT output option is available to pair the ambient impacts attributed to the Chobani facility and the TASCO facility at individual receptors in time and space in order to determine whether Chobani's facility-wide impact exceeds the significant impact level (SIL) at any receptor where the total impact of the two facilities, with ambient background included, is predicted to exceed the NAAQS. The MAXDCONT analysis is conducted using the design rank of the

NAAQS (8th high for 1-hour average NO_2 and 4th high for 1-hour SO_2) as the upper rank. The minimum required lower rank is established at the point where NAAQS compliance is established for the combined impacts of the two facilities as impacts diminish over subsequent ranks.

Please note that Chobani is only required to conduct cumulative impact analyses using those receptors where the maximum ambient impacts attributed to the proposed modification project are predicted to exceed the SIL for that pollutant and averaging period. The receptor grid used in the analysis should be extensive enough to capture all areas where the proposed modification's ambient impacts exceed the SIL.

- **Comment 8: Ambient Air Boundary.** A diagram of the revised ambient air boundary and new emissions unit locations was not submitted with the modeling protocol, and the protocol noted that a revised plot plan will be submitted with the permit application. The protocol's description of the methods that will be used to preclude public access to the area being claimed as exempt from ambient air appear to meet the requirements of DEQ's Air Quality Modeling Guideline.

- **Comment 9: NO_2, 1-Hour Average Tier 3 Analyses.** If a Tier 3 analysis is used in the modeling demonstration using either the Ozone Limiting Method or the Plume Volume Molar Ratio Method, the NO_2 equilibrium must be set to 0.90 instead of 0.80 to reflect EPA's current guidance on this value. The AERMOD program variable name for this value is "NO2EQUIL". DEQ will consider the 0.80 value if the modeling demonstration contains an approvable justification, but recommends that you obtain approval with DEQ before using the lower value.

  Non-default NO_2 to NO_x ratios may be applied for individual emission units where supporting information is available. See the following website for additional information: http://www.epa.gov/ttn/scram/no2_isr_database.htm. Use of non-default ratios must be discussed in the modeling report and is subject to DEQ approval.

- **Comment 10: Emergency Generator Operating Assumptions.** The preliminary emissions inventory table titled "*AgroFarma Twin Falls – Chobani New Facility Baseline Emission Estimate Summary*" lists Emergency Generator No. 2 hourly NO_x emissions as 0.00 pounds per hour and tons per year. Please confirm the emissions for this source and include the source in your NO_2 ambient impact demonstration if emissions are not negligible. Assumptions for modeling the testing and maintenance of the emergency generator engines were not discussed in the modeling protocol. In light of the stringency of the 1-hour average NO_2 and SO_2 NAAQS, DEQ recommends that you contact modeling staff to discuss options for the treatment of the intermittent sources if the emergency generator engine(s) are significant contributors to the design impacts and NAAQS compliance is an issue.

- **Comment 11: DEQ Application Forms.** Please complete all modeling information application forms for this permit application package. Modeling forms include an emission inventory specifically for the modeling demonstration.

DEQ's modeling staff considers the submitted dispersion modeling protocol, with resolution of the additional items noted above, to be approved. It should be noted, however, that the approval

of the modeling protocol is not meant to imply approval of completed dispersion modeling analyses. Please refer to the *State of Idaho Air Quality Modeling Guideline*, which is available on the Internet at http://www.deq.idaho.gov/media/355037-modeling-guideline.pdf for further guidance.

To ensure a complete and timely review of any analyses submitted to the Idaho Department of Environmental Quality, our modeling staff requests that electronic copies of all modeling input and output files (including BPIP and AERMAP input and output files) be submitted with analyses reports. Also, please include a copy of the protocol and this approval notice with the submitted application. If you have any further questions or comments, please contact me at (208) 373-0536.

Sincerely,

Darrin Mehr

Darrin Mehr
Air Quality Analyst
Monitoring, Modeling, and Emission Inventories
Air Quality Stationary Source Program

Air Dispersion Modeling Protocol
Chobani Dairy Processing Facility
Twin Falls, Idaho

Prepared for
Chobani

Submitted to
Idaho Department of Environmental Quality

October 2012

CH2MHILL®

Air Dispersion Modeling Protocol

Project Background

Chobani Idaho, Inc., (also known as Agro Farma, Inc.) is requesting an air quality Permit-to-Construct (PTC) modification to their Chobani dairy facility located in Twin Falls, Idaho. Chobani is requesting to consolidate their air permit with the City-owned pre-treatment facility (PTF). Currently, the City of Twin Falls is leasing a small parcel of land on the southwestern corner of the Chobani property. The City of Twin Falls is currently constructing the PTF to not only accept wastewater from Chobani but to treat other wastewater flows as well. However, Chobani is looking to expand their facility operations and will need to treat a larger volume of wastewater than initially proposed. As such, Chobani is now in the process of purchasing the PTF from the City of Twin Falls for direct ownership in order to treat their wastewater flows exclusively. Therefore, Chobani plans to own and operate the PTF and dairy facility as one facility.

The permit modification will include the addition of the PTF permitted sources plus any new proposed emission units. The sources will consist of a biogas candlestick flare, two diesel-fired emergency generators (150 kW and 175 kW), and a 10.2 MMBtu/hr derated boiler capable of combusting either biogas or natural gas.

Chobani is proposing to use their emissions inventory from their permitted air quality PTC (P-2012.0003) as potential baseline. Chobani will calculate total potential emissions in pounds per hour and tons per year for the new emission units and compare their baseline emissions to determine the emissions increase or delta.

An air quality impact analysis will be performed in support of this PTC modification required under IDAPA 58.01.01.200. Idaho regulations require a facility applying for a PTC modification to demonstrate compliance with the NAAQS.

This air dispersion modeling protocol is being submitted to the IDEQ on behalf of Chobani. This document summarizes the modeling methodology that will be used to evaluate the facility's impacts to air quality with respect to criteria and state toxic air pollutants (TAPs) emissions. It has been prepared based on the U.S. Environmental Protection Agency (EPA) *Guidelines on Air Quality Models (GAQM),* and the *State of Idaho Guideline for Performing Air Quality Impact Analyses (ID AQ-01, July 2, 2011).*

Process Description

No emission unit changes are proposed for the dairy processing plant which include: 5 natural gas boilers, makeup air units, rooftop heaters, cooling towers, and infra red bay heaters. The modification or emission unit additions are proposed at the PTF. The PTF will treat the effluent waste water from the dairy processing plant. The emission units for PTF operation include: biogas boiler, candlestick flare, and two emergency generators.

Biogas is generated in a USAB (anaerobic) reactor during the waste water pre-treatment process. A Calorix boiler is proposed to heat the effluent waste water to maintain a process temperature for pre-treatment. The Calorix boiler will combust biogas generated from the USAB reactor as the primary fuel with natural gas as a secondary fuel. Any excess biogas produced will be distributed to the candlestick flare and burned off.

The 175 kW emergency diesel generator will be used to power the PTF in case of an electric power failure and the 150 kW emergency diesel generator will be used to power the Calorix boiler to heat the effluent waste water in case of an electric power failure.

Stack Parameters

Facility-wide stack parameters are provided for all the emission units for both point sources and volume sources.

Point Sources

Six boiler stacks, three make up air unit, eight rooftop heaters, eight cooling tower cells, one flare stack and two emergency diesel generator stacks will be represented as point sources. The release parameters for each source type are shown in Table 1. A preliminary site plan with the emission units identified are included in Figure 1.

TABLE 1
Point Source Stack Parameters

Source Type	Number of Sources	Stack Height (meters)	Temperature (Kelvin)	Exit Velocity (meter/second)	Stack Diameter (meters)
Natural Gas Boilers 1 to 5 Stacks	5	15.85	472	18.86	0.61
Natural Gas Boiler 6 Stack (NEW)	1	6.09	323.2	15.0[a]	0.45
Makeup Air Units (horizontal discharge)	3	14.63	313	15.24	0.5 to 1.27
Rooftop Heaters	8	14.63	313	15.24	0.5
Cooling Tower Cells	8	23.47	300	11.43	3.96
Emergency Generator 1 (PTF)	1	3.05	679	47.3[b]	0.20
Emergency Generator 2 (NEW)	1	1.8	737	52.9[c]	0.20
Flare (PTF)	1	7.26	1273	20.00	0.46

[a] Velocity based on flow rate of 15 m/s (provided by boiler manufacturer (OVIVO/GWE) –Appendix A).
[b] Velocity based on flow rate of 1320 scfm (provided by engine manufacturer (Cummins) –Appendix A).
[c] Velocity based on flow rate of 1240 scfm (provided by engine manufacturer (Cummins) –Appendix A).

Flare

For the flare, the SCREEN3 User's Guide (EPA, 1995) was used to calculate the equivalent stack diameter and height. Additionally, the SCREEN3 default parameters for the flare buoyancy calculation were used for stack temperature of 1273 Kelvin (1832 Fahrenheit) and velocity of 20 m/s. The calculations for the adjusted flare diameter and stack height include:

Flare Equivalent Diameter and Stack Height calculations

The equivalent stack diameter uses the net heat release.

$$d = 9.88 \times 10^{-4} (q_n)^{\frac{1}{2}}$$

The net heat release uses the heat release of the biogas from the flare

$$q_n = (0.45)\, q$$

q = gross heat release from the flare (cal/s)

qn = net heat release from the flare (cal/s)

q= Max bio gas production (278,400 scf/day) x Fuel heat value (600 BTU/scf)

= [167,040,000 BTU/day x 252 cal/BTU] / [24*3600 seconds/ day]

= 487,200 cal/s

q_n = 0.45 *487,200 cal/s

= 219,240 cal/s

Now that the value for the new heat release of the biogas is determined, the equivalent diameter is

$$d = 9.88 \times 10^{-4} (219{,}240 \text{ cal/s})^{\frac{1}{2}}$$

= 0.463 m

The physical stack height of the flare is adjusted in the EPA method by adding the length of the flame to the height of the top of the flare structure using the formula:

$$H_a = H_s + [(4.56 \times 10^{-3})(q^{0.478})]$$

H_a = Adjusted flare height (m)

H_s = Physical flare height (m)

q= gross heat release (cal/s) input by user

H_a = 3.35 m+ $[(4.56 \times 10^{-3})(487{,}200 \text{ cal/s}^{0.478})]$

= 5.74 m **(Note: stack height adjusted to 7.26 m for modeling demonstration)**

Volume Sources

The facility includes eight Receiving bay infra red heaters. These sources will be represented as volume sources using the procedures outlined in the AERMOD users guide for determining release parameters. The release height is the height of the building on which the source is located. The initial lateral dimension for a single volume source is the length of side divided by 4.3. The initial vertical dimension for an elevated source on a building is the building height divided by 2.15. The release parameters for each source type are shown in Table 2. A complete table of each modeled source is included at the end of the modeling protocol.

TABLE 2
Volume Source Release Parameters

Source Type	Number of Sources	Release Height[a] (meters)	Initial Horizontal Dimension[b] (meters)	Initial Vertical Dimension[c] (meters)
Receiving bay infra red heater	8	8.53	0.024	3.97

[a] Release height based on building height of 8.53 meters
[b] Initial horizontal dimension based on 4-inch opening divided by 4.3
[c] Initial vertical dimension based on building height of 8.53 meters divided by 2.15

Estimated Emissions

Pollutant emissions were estimated based on manufacturer data and AP-42 emission factors. A summary of the criteria pollutant baseline emission estimates, proposed increase in emissions from modification, and new baseline emission estimates are provided in Appendix B.

Table 3 provides a summary of the pollutant cases that require modeling based on the current IDWQ Modeling Threshold Values for Level II sources in Idaho.

TABLE 3
Emission Rates and Modeling Thresholds

Pollutant	Averaging Period	Facility Total Emission Rate	IDEQ Modeling Threshold[a]	Modeling Required
PM10	24-hour	0.30 lb/hr	2.6 lb/hr	No
PM2.5	24-hour	1.48 lb/hr	0.63 lb/hr	Yes
	Annual	0.57 tpy	4.1 tpy	No
CO	1-hour, 8-hour	5.15 lb/hr	175 lb/hr (15 lb/hr)	No
NO2	1-hour	2.88 lb/hr	2.4 lb/hr	Yes
	Annual	3.79 tpy	14 tpy	No
SO2	1-hour	10.45 lb/hr	2.5 lb/hr (0.21 lb/hr)	Yes
	Annual	40.76 tpy	14 tpy (1.2 tpy)	Yes
Lead	3-month rolling average	5.0E-6 lb/hr[b]	14 lb/month	No

[a] Criteria pollutants from Level II sources may be evaluated on a case by case basis. Values in parenthesis represent Level 1 sources.
[b] Equivalent to approximately 0.004 lb/month.

A summary of facility wide toxic air pollutant (TAP) emissions are compared to their respective Screening Emission Level as described in IDAPA 58.01.01.585 and 58.01.01.586. Acetaldehyde, benzene, 1,3-Butadiene, formaldehyde, POM, PAH, arsenic, nickel, cadmium, and naphthalene emissions will need to be modeled to demonstrate compliance because each pollutant exceeds their respective Emissions Screening Level. Appendix B displays the source emission rate for pollutants that will require dispersion modeling.

Regulatory Review

Standards and Criteria Levels

Table 4 summarizes applicable criteria including:

- the National Ambient Air Quality Standards (NAAQS).
- the significant contribution levels (SCL),

TABLE 4
Regulatory Standards and Criteria Levels

Pollutant	Averaging Period	Primary NAQA		Significant Contribution Level
		($\mu g/m^3$)	(ppm)	($\mu g/m^3$)
PM_{10}	24-hour	150		5.0
$PM_{2.5}$	24-hour	35		1.2
	Annual	15		0.3
CO	1-hour	40000	35	2000
	8-hour	10000	9	500
NO_2	1-hour	188	0.100	7.5

TABLE 4
Regulatory Standards and Criteria Levels

Pollutant	Averaging Period	Primary NAQA		Significant Contribution Level
		($\mu g/m^3$)	(ppm)	($\mu g/m^3$)
SO_2	Annual	100	0.053	1
	1-hour	196	0.075	7.8
	24-hour	365	0.14	5
Lead	Annual	80	0.03	1
	3-month rolling average	0.15		NA

Modeling will be conducted to determine whether the proposed emissions will result in an impact greater than the applicable Idaho significant contribution levels (SCL) shown in Table 4. If the predicted impacts are not significant (that is, less than the SCL), the modeling is complete for that pollutant under that averaging time. If impacts are significant, a more refined analysis will be conducted for demonstration of compliance with the NAAQS. A description of the modeling methodology is presented below.

Dispersion Model

For the air quality analysis, the EPA-approved AERMOD (Version 12060) model is proposed. AERMOD will be run with the following default options.

- Use of calms processing routines,
- Use of missing data processing routines,
- Default vertical potential temperature gradients.

Direction specific building downwash parameters will be calculated using the EPA Building Profile Input Program for PRIME (BPIP-Prime), Version 04274.

Ambient Air Boundary

A new ambient air boundary will be established since the PTF will be under common control of Chobani. The proposed ambient air boundary will consist of the entire Chobani perimeter property boundary including the PTF, canal banks in the northeast section of the property, and the access road into the "Chobani café" and the café itself.

Chobani will operate a café and store front in the northern section of the property. The cafe and the production facility's primary parking lot is intended for use by Chobani employees and other people accessing the Chobani facility in conducting business with the facility (equipment vendors and maintenance staff, clients, etc.). As such, the immediate area around the Chobani Café (store front) was determined to be ambient air because it will be open to the public.

In addition, there is a canal (labeled Lateral 33 and Lateral 33B) that runs through the northeastern portion of the facility property. As such, in addition to Chobani's property boundary, ambient air boundary will also be assumed to exist along the canal banks in the northeast section of the property. Based on an agreement with Chobani, Twin Falls Canal Company is responsible for maintenance of the canal.

A combination of fencing and "no-trespassing" signs will be used to identify the ambient air boundary. A figure will be prepared in the permit application to identify the ambient air boundary.

Receptors

The selection of receptors in AERMOD will be as follows, which meet the minimum recommendations specified in the State of Idaho Guideline for Performing Air Quality Analyses.

- Discrete Receptors 25 meters around the property line, onsite canal segments and café area.
- A 50-meter grid extended approximately 200 meters.
- A 100-meter grid extended approximately 1 kilometer.
- A 500-meter grid extended approximately 5 kilometers.

U.S. Geological Survey (USGS) National Elevation Dataset (NED) terrain data will be used in conjunction with the AERMAP pre-processor (version 11103) to determine receptor elevations and terrain maxima.

Meteorological Data

IDEQ provided the AERMOD-ready five-year meteorological dataset, which was based on Twin Falls Joslin Airport surface data and Boise airport upper air data. 1-minute ASOS data collected at Joslin Field was used for additional on-site data. The five year dataset covers the years 2006 through 2010.

Ambient Background Conditions

Background air quality data were previously provided by IDEQ for this project and are summarized in Table 5. Please verify if these are the current background values to use for this modeling analysis. Background concentrations will be added to model results for comparison to the NAAQS.

TABLE 5
Ambient Background Concentrations

Pollutant	Averaging Period	Ambient Background Concentration ($\mu g/m^3$)
PM10	24-hour	52[a]
PM2.5	24-hour	21.3[b]
	Annual	7.2[c]
NO2	1-hour	81.5[d]
	Annual	24.5[e]
SO2	1-hour	33.1
	Annual	2.6

[a] 6th highest value.
[b] based on the three year average of the 98th percentile values.
[c] based on the three-year average of the annual mean value.
[d] based on the average of three year of data collected at the St. Luke's Meridian monitoring site from 2009, 2010 and 2011.
[e] based an average of the default background values for small town/suburban areas and rural agricultural values of 32 and 17 $\mu g/m^3$.

Preliminary Analysis

The preliminary analysis for each pollutant will be conducted as follows:

- If the predicted impacts are not significant (that is, less than the SCL), the modeling is complete for that pollutant under that averaging time.
- If impacts are significant, a more refined analysis, as described below, will be conducted.
- For annual average NOx, it will be initially assumed that all NOx is converted to NO_2. If the resulting concentration exceeds the SCL, then the concentration will be multiplied by the default annual NO_2/NOx ratio of 0.75 as suggested by EPA and compared to the SCL again. If the resulting concentrations still exceed the SCL, then a refined analysis will be conducted.

Refined Analysis

Comparison to the Ambient Air Quality Standards will be conducted as follows:

- For pollutants with concentrations greater than the SCLs, the maximum concentration will be determined and compared to the NAAQS. This maximum concentration will include contributions from the facility, nearby sources, and ambient background concentrations.
- IDEQ will be contacted to identify nearby sources, if any, that need to be included in the analysis.
- 1-hour NO2 will be evaluated using the Tier III Plume Volume Molar Ratio Method (PVMRM). This is not a regulatory default method. In Chobani's previous application, DEQ provided hourly ozone background concentrations (see Table 6 below) and recommended to use the default in stack NO_2 to NO_x ratio of 0.5 for all sources of NOx emissions, which is considered a conservative approach. An equilibrium ratio of 0.8 will be used for the 1-hr NO2 model runs.

TABLE 6
Hourly Ozone Backgrounds

Hour of Day	Ozone Background Concentration (ppb[a])
1	37.9
2	28.5
3	26.8
4	24.1
5	22.1
6	21.4
7	19.7
8	22.8
9	30.5
10	37.8
11	43.8
12	48.8
13	53.0
14	55.0
15	57.1
16	57.6
17	57.1
18	55.1
19	49.0
20	39.0
21	30.9
22	28.5
23	29.4
24	29.6

[a] Parts per billion.

Output – Presentation of Results

The results of the air dispersion modeling analyses will be presented as follows:

- A description of modeling methodologies and input data,
- A summary of the results in tabular and, where appropriate, graphical form,
- Modeling files used for the AERMOD analysis will be provided with the application on compact disk,
- Any deviations from the methodology proposed in this protocol will be presented.

Appendix F

Air Dispersion Modeling Tables

Input Parameters

Source ID	Source Description	Easting (X)	Northing (Y)	Base elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	1-hr, 24-hr Average Emission Rate			Annual average emission rate
									NO2	SO2	PM2.5	SO2
		(m)	(m)	(m)	(ft)	(F)	(fps)	(inch)	(lb/hr)	(lb/hr)	(lb/hr)	(tpy)
FLARE		711876.09	4713405.89	1163.1	23.82874	1832	65.6167979	1.520013	2.40E-01	3.38E+00	4.00E-02	1.48E+01
GEN1		711839.79	4713375.33	1163.3	10	762.53	155.3072024	0.666995	2.14E+00	1.00E-02	1.10E-01	5.00E-04
GEN2	Emergency Generator #2	711840	4713417.8	1163.09	10.00656	781.07	398.9501312	0.666667	3.46E+00	5.60E-03	5.00E-02	2.80E-04
BOILER1		712528.5	4713551	1162.4	52	390.002	61.88	2	2.32E+00	2.00E-02	3.30E-01	8.76E-02
BOILER2		712528.5	4713564	1162.4	52	390.002	61.88	2	2.32E+00	2.00E-02	3.30E-01	8.76E-02
BOILER3		712528.5	4713577	1162.4	52	390.002	61.88	2	2.32E+00	2.00E-02	3.30E-01	8.76E-02
BOILER4		712528.5	4713590	1162.4	52	390.002	61.88	2	2.32E+00	2.00E-02	3.30E-01	8.76E-02
BOILER5		712528.5	4713603	1162.4	52	390.002	61.88	2	2.32E+00	2.00E-02	3.30E-01	8.76E-02
BOILER6	Boiler #6	711840	4713435	1163.09	29.5276	122.27	38.50065617	1.181102	3.90E-01	3.95E+00	6.00E-02	1.73E+01
BRMAU1		712518.83	4713534.44	1162.4	48	103.73	50	4.166667	3.50E-01	2.11E-03	3.00E-02	9.24E-03
LABMAU		712586.51	4713585.07	1162.4	48	103.73	50	1.64042	8.00E-02	4.76E-04	1.00E-02	2.08E-03
BATTMAU		712533.18	4713480.84	1162.4	48	103.73	50	4.166667	3.50E-01	2.11E-03	3.00E-02	9.24E-03
RTU1		712535	4713635	1162.4	48	103.73	50	1.64042	5.00E-02	3.09E-04	3.91E-03	1.35E-03
RTU2		712555	4713635	1162.4	48	103.73	50	1.64042	5.00E-02	3.09E-04	3.91E-03	1.35E-03
RTU3		712575	4713635	1162.4	48	103.73	50	1.64042	5.00E-02	3.09E-04	3.91E-03	1.35E-03
RTU4		712535	4713650	1162.4	48	103.73	50	1.64042	5.00E-02	3.09E-04	3.91E-03	1.35E-03
RTU5		712555	4713650	1162.4	48	103.73	50	1.64042	5.00E-02	3.09E-04	3.91E-03	1.35E-03
RTU6		712575	4713650	1162.4	48	103.73	50	1.64042	5.00E-02	3.09E-04	3.91E-03	1.35E-03
PLANT		712607.08	4713547.71	1162.4	48	103.73	50	1.64042	3.00E-02	2.06E-04	2.61E-03	9.02E-04
MAINT		712584.61	4713493.57	1162.4	48	103.73	50	1.64042	1.10E-01	6.85E-04	1.00E-02	3.00E-03
CT01	Cooling Tower Cell	712477.72	4713600.71	1162.4	77.00131	80.33	37.5	12.99213			3.10E-02	
CT02	Cooling Tower Cell	712486.13	4713600.55	1162.4	77.00131	80.33	37.5	12.99213			3.10E-02	
CT03	Cooling Tower Cell	712494.54	4713600.33	1162.4	77.00131	80.33	37.5	12.99213			3.10E-02	
CT04	Cooling Tower Cell	712502.22	4713600.23	1162.4	77.00131	80.33	37.5	12.99213			3.10E-02	
CT05	Cooling Tower Cell	712477.86	4713575.02	1162.4	77.00131	80.33	37.5	12.99213			3.10E-02	
CT06	Cooling Tower Cell	712486.35	4713574.88	1162.4	77.00131	80.33	37.5	12.99213			3.10E-02	
CT07	Cooling Tower Cell	712494.54	4713574.95	1162.4	77.00131	80.33	37.5	12.99213			3.10E-02	
CT08	Cooling Tower Cell	712502.64	4713575.02	1162.4	77.00131	80	37.5	12.99213			3.10E-02	
PB1	Foster Wheeler B1	710939	4711971	1160.68	156.9882	290	49.4	6.594488	2.00E+02	3.44E+02		
PB2	Foster wheeler boiler 2	710914	4712058	1160.68	216.9948	362	74.0	8.989501	2.20E+02	4.74E+02		
PULPD	Pulp dryer	710833	4712111	1160.68	91.99475	166	22.5	8.005249	4.50E+01	3.40E+01		
PB3		710924	4712023	1160.68	49.2126	300	35.8	4	2.78E+01			

Chobani Modelling AERMOD Input Data

Source ID	Source Description	Easting (X)	Northing (Y)	Base elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	1-hr/24-hr Average Emission Rate			Annual average emission rate
									NO2	SO2	PM2.5	SO2
		(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)	(g/s)	(g/s)	(g/s)
FLARE		711876.09	4713405.89	1163.1	7.263	1273.15	20	0.4633	3.02E-02	4.26E-01	5.04E-03	4.26E-01
GEN1		711839.79	4713375.33	1163.3	3.048	679	47.3376353	0.2033	2.70E-01	1.26E-03	1.39E-02	1.44E-05
GEN2	Emergency Generator #2	711840	4713417.8	1163.09	3.05	689.3	121.6	0.2032	4.36E-01	7.06E-04	6.30E-03	8.05E-06
BOILER1		712528.5	4713551	1162.4	15.8496	472.04	18.861024	0.6096	2.92E-01	2.52E-03	4.16E-02	2.52E-03
BOILER2		712528.5	4713564	1162.4	15.8496	472.04	18.861024	0.6096	2.92E-01	2.52E-03	4.16E-02	2.52E-03
BOILER3		712528.5	4713577	1162.4	15.8496	472.04	18.861024	0.6096	2.92E-01	2.52E-03	4.16E-02	2.52E-03
BOILER4		712528.5	4713590	1162.4	15.8496	472.04	18.861024	0.6096	2.92E-01	2.52E-03	4.16E-02	2.52E-03
BOILER5		712528.5	4713603	1162.4	15.8496	472.04	18.861024	0.6096	2.92E-01	2.52E-03	4.16E-02	2.52E-03
BOILER6	Boiler #6	711840	4713435	1163.09	9	323.3	11.735	0.36	4.91E-02	4.98E-01	7.56E-03	4.98E-01
BRMAU1		712518.83	4713534.44	1162.4	14.6304	313	15.24	1.27	4.41E-02	2.66E-04	3.78E-03	2.66E-04
LABMAU		712586.51	4713585.07	1162.4	14.6304	313	15.24	0.5	1.01E-02	6.00E-05	1.26E-03	6.00E-05
BATTMAU		712533.18	4713480.84	1162.4	14.6304	313	15.24	1.27	4.41E-02	2.66E-04	3.78E-03	2.66E-04
RTU1		712535	4713635	1162.4	14.6304	313	15.24	0.5	6.30E-03	3.89E-05	4.93E-04	3.89E-05
RTU2		712555	4713635	1162.4	14.6304	313	15.24	0.5	6.30E-03	3.89E-05	4.93E-04	3.89E-05
RTU3		712575	4713635	1162.4	14.6304	313	15.24	0.5	6.30E-03	3.89E-05	4.93E-04	3.89E-05
RTU4		712535	4713650	1162.4	14.6304	313	15.24	0.5	6.30E-03	3.89E-05	4.93E-04	3.89E-05
RTU5		712555	4713650	1162.4	14.6304	313	15.24	0.5	6.30E-03	3.89E-05	4.93E-04	3.89E-05
RTU6		712575	4713650	1162.4	14.6304	313	15.24	0.5	6.30E-03	3.89E-05	4.93E-04	3.89E-05
PLANT		712607.08	4713547.71	1162.4	14.6304	313	15.24	0.5	3.78E-03	2.60E-05	3.29E-04	2.60E-05
MAINT		712584.61	4713493.57	1162.4	14.6304	313	15.24	0.5	1.39E-02	8.63E-05	1.26E-03	8.63E-05
CT01	Cooling Tower Cell	712477.72	4713600.71	1162.4	23.47	300	11.43	3.96			3.91E-03	
CT02	Cooling Tower Cell	712486.13	4713600.55	1162.4	23.47	300	11.43	3.96			3.91E-03	
CT03	Cooling Tower Cell	712494.54	4713600.33	1162.4	23.47	300	11.43	3.96			3.91E-03	
CT04	Cooling Tower Cell	712502.22	4713600.23	1162.4	23.47	300	11.43	3.96			3.91E-03	
CT05	Cooling Tower Cell	712477.86	4713575.02	1162.4	23.47	300	11.43	3.96			3.91E-03	
CT06	Cooling Tower Cell	712486.35	4713574.88	1162.4	23.47	300	11.43	3.96			3.91E-03	
CT07	Cooling Tower Cell	712494.54	4713574.95	1162.4	23.47	300	11.43	3.96			3.91E-03	
CT08	Cooling Tower Cell	712502.64	4713575.02	1162.4	23.47	300	11.4	3.96			3.91E-03	
PB1	Foster Wheeler B1	710939	4711971	1160.68	47.85	416	15.1	2.01	2.52E+01	4.33E+01		
PB2	Foster wheeler boiler 2	710914	4712058	1160.68	66.14	456	22.6	2.74	2.77E+01	5.97E+01		
PULPD	Pulp dryer	710833	4712111	1160.68	28.04	348	6.9	2.44	5.67E+00	4.28E+00		
PB3		710924	4712023	1160.68	15	422	10.9	1.2192	3.51E+00			

CHOBANI PTC Air Dispersion Modelling:

Modelling Settings:

1) Boiler #6 and Flare will not operate simultaneously.
2) Boiler #6 has a stack height of 9 meters above grade.
3) Generator #1 and Generator #2 will not be tested simultaneously.
4) Generators will be tested in time period between 9:00 am and noon 12:00 pm.
5) SO_2 emission of Flare and Boiler #6 were based on the H_2S concentration of 4000 ppm.
6) Hourly ambient background NO_2 concentrations were included in the model for 1-hr NO_2 NAAQ modelling.
7) PVMRM method was used for 1-hr NO_2 and hourly ozone concentration was used.
8) In stack NO_2 to NO_x ratio was set to 0.5, and NO_2 equilibrium value was set to 0.9 when using PVMRM.
9) NAAQS modelling for 1-hr NO_2 and 1-hr SO_2 were conducted for receptors greater than SILs.

1. CHOBANI SIL Analysis Modelling Results

Pollutant	Average Period	POI Concentration ($\mu g/m^3$)						Location (UTM)		SIL ($\mu g/m^3$)	Max POI< SIL? (Yes/No)	Number of Receptors>SIL
		2006	2007	2008	2009	2010	Maximum POI	Easting (m)	Northing (m)			
Scenario 1: Boiler #6 + Gen #1 + Others (excluding Flare and GEN #2)												
$PM_{2.5}$	24 -hr	6.04	7.04	6.51	6.29	7.04	7.04	712537.65	4713796.82	1.2	No	
[1]NO_2	1-hr	95.05	99.36	100.10	97.25	102.38	102.38	711770.50	4713360.30	7.5	No	1898
[2]SO_2	1-hr	137.09	152.36	132.29	153.56	155.43	155.43	711750.00	4713550.00	7.8	No	2083
SO_2	24-hr	56.79	44.97	44.59	49.36	50.42	56.79	711700.00	4713400.00	5	No	
SO_2	Annual	10.92	10.27	9.76	9.89	8.99	10.92	711900.00	4713600.00	1	No	
Scenario 2: Boiler #6 + Gen #2 + Others (excluding Flare and GEN #1)												
$PM_{2.5}$	24 -hr	6.04	7.04	6.51	6.29	7.04	7.04	712537.65	4713796.82	1.2	No	
[1]NO_2	1-hr	108.08	99.36	100.10	97.25	94.96	108.08	711837.20	4713466.90	7.5	No	1898
[2]SO_2	1-hr	137.09	152.36	132.29	153.56	155.43	155.43	711750.00	4713550.00	7.8	No	2083
SO_2	24-hr	31.27	44.98	44.59	49.36	50.43	50.43	711700.00	4713400.00	5	No	
SO_2	Annual	10.92	10.27	9.76	9.89	8.99	10.92	711900.00	4713600.00	1	No	
Scenario 3: Flare + Gen #1 + Others (excluding Boiler #6 and GEN #2)												
$PM_{2.5}$	24 -hr	6.02	7.04	6.51	6.29	7.04	7.04	712537.65	4713796.82	1.2	No	
[1]NO_2	1-hr	95.05	99.35	100.10	97.25	103.12	103.12	711770.50	4713360.30	7.5	No	1893
[2]SO_2	1-hr	83.17	83.06	83.27	82.51	82.59	83.27	711812.70	4713465.80	7.8	No	283
SO_2	24-hr	56.80	17.39	24.43	31.03	28.13	56.80	711770.50	4713360.30	5	No	
SO_2	Annual	1.94	1.80	2.57	2.25	2.11	2.57	711984.50	4713473.40	1	No	
Scenario 4: Flare + Gen #2 + Others (excluding Boiler #6 and GEN #1)												
$PM_{2.5}$	24 -hr	6.02	7.04	6.51	6.29	7.04	7.04	712537.65	4713796.82	1.2	No	
[1]NO_2	1-hr	108.08	99.35	100.10	97.25	94.96	108.08	711837.20	4713466.90	7.5	No	1894
[2]SO_2	1-hr	83.17	83.06	83.27	82.51	82.59	83.27	711812.70	4713465.80	7.8	No	283
SO_2	24-hr	25.97	17.38	24.42	31.00	28.07	31.00	711770.50	4713360.30	5	No	
SO_2	Annual	1.94	1.80	2.57	2.25	2.11	2.57	711984.50	4713473.40	1	No	

Note:

[1] High 8th high of each year
[2] High 4th high of each year

2. TAPs - Net Increase Modeling Output File Summary - All CHOBANI Sources

Pollutant	Average Period	Maximum Concentration ($\mu g/m^3$)						Location (UTM)		Acceptable Ambient Concentration[2]	Exceed AAC
		2006	2007	2008	2009	2010	Maximum	Easting (m)	Northing (m)	($\mu g/m^3$)	(Yes or No)
Acetaldehyde	Annual	0.02449	0.02362	0.02341	0.02066	0.01907	0.02449	711886.3	4713469.1	4.50E-01	No
Benzene	Annual	0.02997	0.02884	0.02871	0.02529	0.0234	0.02997	711886.3	4713469.1	1.20E-01	No
1,3-Butadiene	Annual	0.00125	0.0012	0.00119	0.00105	0.00097	0.00125	711886.3	4713469.1	3.60E-03	No
Formaldehyde	Annual	0.03991	0.03778	0.03865	0.03383	0.03224	0.03991	711886.3	4713469.1	7.70E-02	No
POM (7-PAH)	Annual	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	711886.3	4713469.1	3.00E-04	No
PAH	Annual	0.00012	0.00011	0.00012	0.0001	0.0001	0.00012	711886.3	4713469.1	1.40E-02	No
Arsenic	Annual	0.00003	0.00003	0.00003	0.00003	0.00003	0.00003	712537.65	4713796.82	2.30E-04	No
Nickel	Annual	0.00027	0.0003	0.00031	0.00034	0.0003	0.00034	712537.65	4713796.82	4.20E-03	No
Cadmium	Annual	0.00014	0.00016	0.00016	0.00018	0.00016	0.00018	712537.65	4713796.82	5.60E-04	No
Naphthalene	Annual	0.00236	0.00242	0.00237	0.00212	0.00197	0.00242	711861.8	4713468	1.40E-02	No

Notes

1 Based on 5-yr meteorological data (2006 through 2010)

2 IDAPA 58.01.01.585 and 586

3. CHOBANI NAAQs Analysis Results

Pollutant	Average Period	Source Groups	POI Concentration ($\mu g/m^3$)							Location (UTM)		Background Concentration	Total Concentration	NAAQs	Exceeds NAAQs	Note
			2006	2007	2008	2009	2010	Maximum	5-Year Average	Easting (m)	Northing (m)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	(Yes/No)	
Scenario 1: Boiler #6 + Gen #1 + Others (excluding Flare and GEN #2)																
PM25	24-hr	Chobani	6.04	7.04	6.51	6.29	7.04	7.04		712537.65	4713796.82	21.30	28.34	35	**No**	
[1]NO2	1-hr	Chobani	95.05	99.36	100.10	97.25	102.38		98.83	711770.50	4713360.30	Hourly NO2 background included in modelling	98.83	188	**No**	
		Tasco	370.52	365.59	367.40	365.20	357.44		365.23	710850.00	4712150.00		365.23	188	**Yes**	See Contribution Analysis
		All	432.90	420.28	428.57	427.01	422.19		426.19	710850.00	4712150.00		426.19	188	**Yes**	
[2]SO2	1-hr	Chobani	137.09	152.36	132.29	153.56	155.43		146.15	711750.00	4713550.00	33.10	179.25	196	**No**	
		Tasco	454.22	453.86	450.34	463.07	453.24		454.95	710850.00	4712150.00	33.10	488.05	196	**Yes**	See Contribution Analysis
		All	454.23	453.87	450.34	463.07	453.24		454.95	710850.00	4712150.00	33.10	488.05	196	**Yes**	
SO2	Annual	Chobani	10.92	10.27	9.76	9.89	8.99	10.92		711900.00	4713600.00	2.60	13.52	80	**No**	
Scenario 2: Boiler #6 + Gen #2 + Others (excluding Flare and GEN #1)																
PM25	24-hr	Chobani	6.04	7.04	6.51	6.29	7.04	7.04		711837.20	4713466.90	21.30	28.34	35	**No**	
[1]NO2	1-hr	Chobani	108.08	99.36	100.10	97.25	94.96		99.95	711770.50	4713360.30	Hourly NO2 background included in modelling	99.95	188	**No**	
		Tasco	370.52	365.59	367.40	365.20	357.44		365.23	710850.00	4712150.00		365.23	188	**Yes**	See Contribution Analysis
		All	432.90	420.28	428.57	427.01	422.19		426.19	710850.00	4712150.00		426.19	188	**Yes**	
[2]SO2	1-hr	Chobani	137.14	152.47	132.35	153.65	155.55		146.23	711750.00	4713550.00	33.10	179.33	196	**No**	
		Tasco	454.22	453.86	450.34	463.07	453.24		454.95	710850.00	4712150.00	33.10	488.05	196	**Yes**	See Contribution Analysis
		All	454.23	453.87	450.34	463.07	453.24		454.95	710850.00	4712150.00	33.10	488.05	196	**Yes**	
SO2	Annual	Chobani	10.92	10.27	9.76	9.89	8.99	10.92		711900.00	4713600.00	2.60	13.52	80	**No**	
Scenario 3: Flare + Gen #1 + Others (excluding Boiler #6 and GEN #2)																
PM25	24-hr	Chobani	6.02	7.04	6.51	6.29	7.04	7.04		711770.50	4713360.30	21.30	28.34	35	**No**	
[1]NO2	1-hr	Chobani	95.05	99.35	100.10	97.25	103.12		98.97	711770.50	4713360.30	Hourly NO2 background included in modelling	98.97	188	**No**	
		Tasco	370.52	365.59	367.40	365.20	357.44		365.23	710850.00	4712150.00		365.23	188	**Yes**	See Contribution Analysis
		All	432.90	420.27	428.57	427.01	422.19		426.19	710850.00	4712150.00		426.19	188	**Yes**	
[2]SO2	1-hr	Chobani	83.17	83.06	83.27	82.51	82.59		82.92	711812.700	4713465.800	33.10	116.02	196	**No**	
		Tasco	128.25	127.55	123.25	121.13	118.22		123.68	711250.00	4712950.00	33.10	156.78	196	**No**	
		All	128.25	127.55	123.25	121.17	118.22		123.69	711250.00	4712950.00	33.10	156.79	196	**No**	
SO2	Annual	Chobani	1.94	1.80	2.57	2.25	2.11	2.57		711984.50	4713473.40	2.60	5.17	80	**No**	
Scenario 4: Flare + Gen #2 + Others (excluding Boiler #6 and GEN #1)																
PM25	24-hr	Chobani	6.02	7.04	6.51	6.29	7.04	7.04		712537.65	4713796.82	21.30	28.34	35	**No**	
[1]NO2	1-hr	Chobani	108.08	99.35	100.10	97.25	94.96		99.95	711837.20	4713466.90	Hourly NO2 background included in modelling	99.95	188	**No**	
		Tasco	370.52	365.59	367.40	365.20	357.44		365.23	710850.00	4712150.00		365.23	188	**Yes**	See Contribution Analysis
		All	432.90	420.27	428.57	427.01	422.19		426.19	710850.00	4712150.00		426.19	188	**Yes**	
[2]SO2	1-hr	Chobani	83.17	83.07	83.28	82.51	82.60		82.92	711812.700	4713465.800	33.10	116.02	196	**No**	
		Tasco	128.25	127.55	123.25	121.13	118.22		123.68	711250.00	4712950.00	33.10	156.78	196	**No**	
		All	128.25	127.55	123.25	121.17	118.22		123.69	711250.00	4712950.00	33.10	156.79	196	**No**	
SO2	Annual	Chobani	1.94	1.80	2.57	2.25	2.11	2.57		711984.50	4713473.40	2.60	5.17	80	**No**	

Note:

[1] High 8th high of each year

[2] High 4th high of each year

4. Chobani Modelling Contribution Analysis Results Summary

Contaminant	Year	Ranking	Scenario ID	Number of receptors exceeds NAAQS	Impact from Chobani ($\mu g/m^3$)			Impact from TASCO ($\mu g/m^3$)			Ambient Background ($\mu g/m^3$)			Total Ambient Impact ($\mu g/m^3$)		
					Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum
1-Hr NO_2	2006-2010	8th	1	58	0.005153	0.00236	0.01399	143.34	112.47	355.10	69.18	51.02	85.90	212.52	188.67	426.19
			2	66	0.005270	0.00227	0.01399	141.22	112.47	355.10	69.43	51.02	85.90	210.66	188.67	426.19
			3	66	0.004029	0.00117	0.01161	141.22	112.47	355.10	69.43	51.02	85.90	210.65	188.67	426.19
			4	66	0.004026	0.00117	0.01161	141.22	112.47	355.10	69.43	51.02	85.90	210.65	188.67	426.19
	Maximum				0.005270	0.00236	0.01399	143.34	112.47	355.10	69.43	51.02	85.90	212.52	188.67	426.19
	SIL for 1-hr NO_2				7.5											
	Exceed SIL (Yes/No)				No	No	No									
1-Hr SO_2	2006-2010	4th	1	24	0.012600	0.00212	0.02187	210.23	163.02	454.95	33.10			243.34	196.14	488.05
			2	24	0.012602	0.00212	0.02187	210.23	163.02	454.95	33.10			243.34	196.14	488.05
	Maximum				0.012602	0.00212	0.02187	210.23	163.02	454.95	33.10			243.34	196.14	488.05
	SIL for 1-hr SO_2				7.8											
	Exceed SIL (Yes/No)				No	No	No									

Note:

Scenario 1: Boiler #6 + Gen #1 + Others (excluding Flare and GEN #2)

Scenario 2: Boiler #6 + Gen #2 + Others (excluding Flare and GEN #1)

Scenario 3: Flare + Gen #1 + Others (excluding Boiler #6 and GEN #2)

Scenario 4: Flare + Gen #2 + Others (excluding Boiler #6 and GEN #1)

Appendix G

Regulatory Review NSPS Subpart IIII

Title 40: Protection of Environment
Part 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

The engine manufacturer is Cummins, model year 2011, Model DSGAD, 175 kW rating, EPA Tier 3.

Emission Standards for Manufacturers

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

175 kW rated emergency standby generator with total displacement = 6.69 liters/ 6 cylinders = 1.12 liter/cylinder. (See manufacturer data sheet in PTC application)

Comply with emission standards (Table 1 per 40 CFR 89.112): NHMC + NOx = 4.0 g/kw-hr; CO = 3.5 g/kw-hr; PM= 0.20 g/kw-hr (See emission calculations for emergency generators in PTC application)

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in paragraphs (d)(1) and (2) of this section.

(1) Reduce NO_X emissions by 90 percent or more, or limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to 1.6 grams per KW-hour (1.2 grams per HP-hour).

(2) Reduce PM emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

175 kW rated emergency standby generator with total displacement = 6.69 liters/ 6 cylinders = 1.12 liter/cylinder. (See manufacturer data sheet in PTC application)

Comply with emission standards (Table 1 per 40 CFR 89.112): NHMC + NOx = 4.0 g/kw-hr; CO = 3.5 g/kw-hr; PM= 0.20 g/kw-hr (See emission calculations for emergency generators in PTC application)

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

The emergency generator will be required to use ultra low sulfur diesel fuel with a maximum sulfur content of 15 ppmV.

(c) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(d) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the Federal Aid Highway System may petition the Administrator for approval to use any fuels mixed with used lubricating oil that do not meet the fuel requirements of paragraphs (a) and (b) of this section. Owners and operators must demonstrate in their petition to the Administrator that there is no other place to use the lubricating oil. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in the previous model year?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements

specified in paragraphs (a) through (f) of this section after the dates specified in paragraphs (a) through (f) of this section.

(h) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.

A non-resettable hour meter will be installed on the Cummins emergency generator.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and §60.4202(c) using the certification procedures required in 40 CFR part 94 subpart C, and must test their engines as specified in 40 CFR part 94.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 40 CFR 1039.125, 40 CFR 1039.130, 40 CFR 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89 or 40 CFR part 94 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate, but the words "stationary" must be included instead of "nonroad" or "marine" on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under parts 89, 94, or 1039 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words "and stationary" after the word "nonroad" or "marine," as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as "Fire Pump Applications Only".

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and $NO_x$and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit $NO_x$and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.

Maintenance and testing hours of operation for each emergency generator will not exceed 100 hr/yr.

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (d) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the

same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Title 40: Protection of Environment
Part 60,Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

The engine manufacturer is Caterpillar, model year 2012, Model C15 ATAAC, 350 kW rating, EPA Tier 3.

Emission Standards for Manufacturers

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

350 kW rated emergency standby generator with total displacement = 15.2 liters/ 6 cylinders = 2.53 liter/cylinder. (See manufacturer data sheet in PTC application)

Comply with emission standards (Table 1 per 40 CFR 89.112): NHMC + NOx = 4.0 g/kw-hr; CO = 3.5 g/kw-hr; PM= 0.20 g/kw-hr (See emission calculations for emergency generators in PTC application)

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in paragraphs (d)(1) and (2) of this section.

(1) Reduce NO_X emissions by 90 percent or more, or limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to 1.6 grams per KW-hour (1.2 grams per HP-hour).

(2) Reduce PM emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

350 kW rated emergency standby generator with total displacement = 15.2 liters/ 6 cylinders = 2.53 liter/cylinder. (See manufacturer data sheet in PTC application)

Comply with emission standards (Table 1 per 40 CFR 89.112): NHMC + NOx = 4.0 g/kw-hr; CO = 3.5 g/kw-hr; PM= 0.20 g/kw-hr (See emission calculations for emergency generators in PTC application)

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

The emergency generator will be required to use ultra low sulfur diesel fuel with a maximum sulfur content of 15 ppmV.

(c) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(d) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the Federal Aid Highway System may petition the Administrator for approval to use any fuels mixed with used lubricating oil that do not meet the fuel requirements of paragraphs (a) and (b) of this section. Owners and operators must demonstrate in their petition to the Administrator that there is no other place to use the lubricating oil. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in the previous model year?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements

specified in paragraphs (a) through (f) of this section after the dates specified in paragraphs (a) through (f) of this section.

(h) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.

A non-resettable hour meter will be installed on the 350 kW emergency generator

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and §60.4202(c) using the certification procedures required in 40 CFR part 94 subpart C, and must test their engines as specified in 40 CFR part 94.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 40 CFR 1039.125, 40 CFR 1039.130, 40 CFR 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89 or 40 CFR part 94 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate, but the words "stationary" must be included instead of "nonroad" or "marine" on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under parts 89, 94, or 1039 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words "and stationary" after the word "nonroad" or "marine," as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as "Fire Pump Applications Only".

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_X and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_X and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.

Maintenance and testing hours of operation for the 350 kW emergency generator will not exceed 100 hr/yr.

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (d) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the

same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Attachment

Modeling Files and Emissions XL Spreadsheet Files CD