CH2MHILL TRANSMITTAL

To: Idaho Department of Env Quality
1410 N. Hilton
Boise, ID 83706

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

Attn: Mr. Bill Rogers

Date: May 2, 2012

Re: PTC (15-Day Pre-Permit Construction Application)
City of Twin Falls Pre-Treatment Facility
Twin Falls, ID

We Are Sending You:		Method of shipment: Hand Delivery	
X Attached		Under separate cover via	
Shop Drawings	X	Documents	Tracings
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Quantity	Description
1	Bound PTC Application with CD containing modeling files and emission estimates

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

cc: Jacqueline Fields, Twin Falls City Engineer
Troy Vitek, Asst. Twin Falls City Engineer

Receipt

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Order Number: PP3ID982170SID4431724-982170
Order Date: Wed May 02 14:52:07 MDT 2012
Payment Method: Visa xxxxxxxxxxxx8748
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
Convenience Fee*	$30.00
Total	$1,030.00

Contact information

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Billing questions

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5/2/2012

PTC (15-Day Pre-Permit Construction) Application

City of Twin Falls Pre-Treatment Facility Twin Falls, Idaho

Prepared for
City of Twin Falls

Submitted to
Idaho Department of Environmental Quality

May 2012

CH2MHILL

Contents

1.0 Introduction

On behalf of the City of Twin Falls, CH2M HILL, Inc. has prepared a 15-Day Pre-Construction Permit application for a new waste water pre-treatment facility located in Twin Falls, Idaho. The pre-treatment facility will receive effluent waste water from the adjacent Chobani yogurt facility owned by Agro-Farma, Inc. To expedite construction for this new facility, the requirements for Pre-Permit Construction approval will be followed in accordance with the *Rules for the Control of Air Pollution in Idaho* (IDAPA) 58.01.01.213.02.

The City of Twin Falls will be leasing the property from Agro Farma, Inc. A previous determination was approved by the Idaho Department of Environmental Quality (IDEQ) that the City owned and operated pre-treament facility and the dairy facility owned and operated by Agro Farma, Inc. are separate entities that each require their own air quality Permit-to-Construct (PTC). A copy of the IDEQ determination letter is included in Appendix A.

The pre-treatment facility is located on a parcel of land owned by Agro Farma, Inc. (southwest corner bordered by Hankins Road to the west and a railroad to the South). A general site plan of the Agro-Farma property and leased parcel by the City of Twin Falls are shown in Figure 1. The City owned pre-treatment facility will consist of one biogas candlestick flare and one diesel emergency generator as stationary emitting sources. The site details of the pre-treatment facility are shown in Figure 2.

An application fee of $1,000.00 has been included with the 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 Idaho Department of Environmental Quality (IDEQ) application forms are included in Appendix B.

An informational meeting has been scheduled at the City Council Chambers located at 305 Third Ave. East in Twin Falls, Idaho from 5 to 6 PM on Thursday May 3, 2012. A public announcement was published in the Twin Falls – TIMES-NEWS on April 22, 2012. A copy of the public announcement is included in Appendix C.

This pre-permit construction and PTC application includes a process description, plot plan, process flow diagram, emission estimates, modeling protocol and results, and regulatory review. This application is intended to satisfy the requirements for Pre-Permit Construction in accordance with IDAPA 58.01.01.213.

2.0 Process Description

The City of Twin Falls will own and operate a waste water pre-treatment facility. Waste water from the Agro Farma equalization tanks will be pumped to the DAF system. The DAF system includes a coagulation and flocculation chamber for addition of chemical/polymer to aid in the FOG/TSS removal in the DAF tank. In the DAF tank, small air bubbles are used to float the FOG to the top of the tank. The DAF float is skimmed and pumped to a DAF float storage tank. The underflow from the DAF is pumped through a set of heat exchangers to a UASB conditioning tank.

In the USAB conditioning tank, the DAF effluent stream is blended and the conditioned waste water is pumped into the influent feed distribution system located at the bottom of the USAB reactor. In the USAB (anaerobic) reactor, the granular biomass degrades the COD and produces biogas. The biomass and biogas mixture rise in the reactor and contact a series of 3 phase separators located at the top of the reactor. The separator system performs the function of degassing the biomass so the biomass can settle back down to the sludge bed while the biogas is directed to the candlestick flare.

An emergency diesel generator will be used to power the facility in case of an electric power failure.

Ambient air will be defined as fencing surrounding the leased perimeter boundary (see Figure 1).

The City of Twin Falls is not proposing any emission controls for any of the emitting sources at the pre-treatment facility. However, the pre-treatment process will include a biofiter system to reduce odors. For odor control, the anaerobic reactors should be closed or covered and the waste air removed from the head space, blown by a pressure fan to an odor removing system (biofilter). The biofilter is designed as a rectangular tank from corrosion-

free high-density polyethylene material. It will consist of an air moistening chamber, with spraying nozzles and a recycle pump and a filter chamber. Air will pass through the moist filtering layer inside the chamber. The filter material consists of a mixture of wood chips, limestone powder, and nutrients. Microorganisms will grow in the moist filter layer and degrade or oxidize the odorous compounds.

A process flow diagram of the pre-treatment facility is shown in Figure 3.

3.0 Scaled Plot Plan

The project boundaries and scaled facility layout are shown in Figure 2 including the location of the biogas candlestick flare and a diesel emergency generator.

4.0 Potential to Emit Emission Estimates

Hourly and annual potential emission rates were calculated for a Varec biogas candlestick flare and a Cummins emergency diesel generator summarized in Table 1. The Varec biogas candlestick flare will be designed to handle an estimated rated heat input of 6.96 MMBtu/hr operating 8,760 hr/yr. Emission estimates for the flare are based upon the maximum rate of 278,400 scf/day based on the maximum design flow of 11,600 cf/hr. the biogas heating valueof 600 Btu/scf is based on engineering judgement of USAB operating near pH of 7.

The Cummins emergency diesel generator is rated at 175 kW in Standby mode (324 hp per *EPA Tier 3 Exhaust Compliance Statement*). Uncontrolled generator potential to emit calculations are based on 500 hours per year. Controlled generator maintenance and testing will be limited up to 2 hours per week and 100 hours per year per.

Potential to emit 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 Code of Federal Regulations (CFR) Part 98 Supbart C was 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 98 Subpart C.

Emission calculations are included in Appendix D. Manufacturer data for Varec flare and Cummins emergency generator are provided in Appendix E. A summary of the regulated criteria pollutants are provided in Table 1.

TABLE 1
Criteria Summary

Pollutant	Units	Flare	Emergency Generator	Facility Totals
PM10	lb/hr	0.09	0.11	**0.20**
	tpy	0.39	0.005	**0.39**
PM2.5	lb/hr	0.09	0.11	**0.20**
	tpy	0.39	0.005	**0.39**
CO	lb/hr	2.58	1.86	**4.43**
	tpy	11.28	0.09	**11.37**
NOx	lb/hr	0.47	2.14	**2.62**
	tpy	2.07	0.11	**2.18**
SOx	lb/hr	8.54	5.94E-05	**8.54**
	tpy	37.39	2.97E-06	**37.39**

lb/hr = pounds per hour
tpy = tons per year

A summary of facility wide toxic air pollutant (TAP)emissions are presented in Table 2. Each TAP is compared to their respective Screening Emission Level as described in IDAPA 58.01.01.585 and 58.01.01.586. Acetaldehyde, benzene, formaldehyde, naphthalene, 1,3-Butadiene, and total PAH emissions exceed their respective Screening Emission Levels. Therefore, these TAPs require modeling to demonstrate compliance.

TABLE 2
Facility Toxic Air Pollutant Emissions Summary

Pollutant	Facility Total Emission Rate (lb/hr)	IDAPA 58.01.01.585/586 Screening Level	Comparison to Screening Level
Acetaldehyde	3.01E-03	3.00E-03	**Exceeds**
Acrolein	3.63E-04	1.70E-02	Below
Ammonia	3.71E-02	1.20E+00	Below
Benzene	5.50E-03	8.00E-04	**Exceeds**
Formaldehyde	1.82E-02	5.10E-04	**Exceeds**
Hydrogen Sulfide	5.05E-01	9.33E-01	Below
Naphthalene	3.32E-04	9.10E-05	**Exceeds**
o-Xylenes	1.12E-03	2.90E+01	Below
Toulene	1.60E-03	2.50E+01	Below
1,3-Butadiene	1.53E-04	2.40E-05	**Exceeds**
Total PAH	1.78E-04	9.10E-05	**Exceeds**

5.0 Facility Classification

The pre-treatment facility is not a major facility as defined in IDAPA 58.01.01.008.10 or a designated facility as defined in IDAPA 58.01.01.006.26. The primary Standard Industrial Classification (SIC) code for the facility is 4952, *Sanitary Services, Sewerage Systems.* The facility emits less than 100 tons per year of any regulated pollutant and less than 100,000 tons per year of CO2e. The site is a minor source for Hazardous Air Pollutants (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 pre-treatment facility is not a listed facility in 40 CFR Part 52 (100 tons per year threshold) and is not otherwise subject to Part 52 New Source Review (PSD) requirements due to potential emissions less than all applicable PSD major source thresholds.

The pre-treatment facility will be located in the City of Twin Falls, Twin Falls County, Idaho. Twin Falls County is located in an attainment area for carbon monoxide (CO), PM_{10}, $PM_{2.5}$, sulfur dioxide (SO_2), oxides of nitrogen (NO_x), ozone (O_3), and lead (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 on March 23, 2012. The source parameters and modeling assumptions were identified within the modeling protocol. The protocol was approved via e-mail by IDEQ on April 13, 2012. The air dispersion modeling protocol and IDEQ approval are included in Appendix F.

Air dispersion modeling was performed using two stationary emitting sources which included a biogas candlestick flare and diesel emergency generator. Release parameters for each source are identified in Table 3. Stack parameters are derived from manufacturer specifications for the Cummins emergency generator and the SCREEN3 User's Guide (EPA, 1995) for the Varec flare.

Generator exhaust data are based on Cummins data sheet per exhaust flow at set rate load. An additional stack height adjustment to 10 feet above ground surface for the emergency generator were required for compliance demonstration with the 1-hr SO_2 averaging period. Generator stack flow calculations converting SCFM to ACFM are included in Appendix G.

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.

$$d = 9.88 \times 10^{-4} (q_n)^{½}$$

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

TABLE 3
Release Parameters

Source Type	Source ID	Source Height (ft)	Diameter (in)	Flow Rate (acfm)[1]	Velocity (m/s)	Temperature (F)	Notes
Generator	GEN	10.0	8.0	3,256	47.3	762	Vertical
Flare	FLARE	23.8	18.2	N/A	20	1832	Vertical

Notes
[1] SCFM to ACFM calculations are provided in Appendix G.

Table 4 provides a summary of the pollutant cases that require modeling based on the current IDEQ Modeling Threshold Values for Level I Sources in Idaho. Table 4 demonstrates that dispersion modeling will not be required for PM_{10}, or CO.

TABLE 4
Emission Rates and Modeling Thresholds

Pollutant	Averaging Period	Facility Total Emission Rate	IDEQ Modeling Threshold[a]	Modeling Required
PM10	24-hour	0.20 lb/hr	0.22 lb/hr	No
PM2.5	24-hour	0.20 lb/hr	0.054 lb/hr	Yes
	Annual	0.39 tpy	0.35 tpy	Yes
CO	1-hour, 8-hour	4.43 lb/hr	15 lb/hr	No
NO2	1-hour	2.62 lb/hr	0.2 lb/hr	Yes
	Annual	2.18 tpy	1.2 tpy	Yes
SO2	1-hour	8.54 lb/hr	0.21 lb/hr	Yes
	Annual	37.39 tpy	1.2 tpy	Yes

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 PM_{10} (24-hour), $PM_{2.5}$ (24-hour and annual), CO (1-hour and 8-hour), and NO_2 (annual) 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 are greater than the Screening Emission Level (See Table 2).

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

7.0 Applicable Requirements

A regulatory analysis was performed for the proposed pre-treatment facility to determine the applicability of state and federal air quality regulations. The following sections address air quality regulatory compliance requirements for the City owned pre-treatment 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 proposed 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 new 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 proposed 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 proposed 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 a pre-treatment facility and 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 proposed 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 proposed 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 total facility CO2e is 5,160 tons per year, the facility is not subject to PSD or Title V operating permit programs with respect to the GHG Tailoring Rule at this time.

40 CFR Part 60 Subpart IIII- Standards of Performance for Stationary Compressor Ignition Internal Combustion Engines (CI ICE).

New Source Performance Standards (NSPS) Subpart IIII applies to stationary compression ignition internal combustion engines (CI ICE) that are new, or modified such that they qualify as new sources after July 11, 2005. The rule covers stationary engines that are used in emergencies as well as for remote, auxiliary non-emergency purposes. The applicability provisions of this Subpart will apply to the 175 kW Cummins engine generators

manufactured in 2011 and to be installed in 2012 for emergency use. The applicability analysis is detailed in Appendix I.

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 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 pre-treatment facility is not a major source of HAPs. However, the pre-treatment facility is an area source of HAPs.

For the City owned pre-treatment facility, no area source NESHAPs apply.

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 proposed 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).

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 pre-treatment facility is not a major source nor will any control devices be used. Therefore, the CAM rule is not applicable to the pre-treatment 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."

The pre-treatment facility 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."

The pre-treatment facility 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."

The pre-treatment facility will comply with the regulation outlined in this section.

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

1. Varec Candlestick Flare
2. Cummins Emergency Generator

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

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."

The pre-treatment facility will comply with the regulations outlined in this section.

IDAPA 58.01.01.157
TEST METHODS AND PROCEDURES

1. Varec Candlestick Flare
2. Cummins Emergency Generator

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

IDAPA 58.01.01.161
TOXIC SUBSTANCES

1. Varec Candlestick Flare
2. Cummins Emergency Generator

> "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 D and modeling results in Appendix H.

IDAPA 58.01.01.200
PROCEDURES AND REQUIREMENTS FOR PERMITS TO CONSTRUCT

1. Varec Candlestick Flare
2. Cummins Emergency Generator

Upon approval of the 15-Day PTC by IDEQ, The pre-treatment facility 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. Varec Candlestick Flare
2. Cummins Emergency Generator

"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 D and modeling results in Appendix H.

IDAPA 58.01.01.213
PRE-PERMIT CONSTRUCTION

1. Varec Candlestick Flare
2. Cummins Emergency Generator

IDAPA 58.01.01.213.02 Permit to Construct Procedures for Pre-Permit Construction

IDAPA 58.01.01.213.02.a Informational Meeting

"Within ten (10) days after the submittal of the pre-permit construction approval application, the owner or operator shall hold an informational meeting in at least one (1) location in the region in which the stationary source or facility is to be located. The informational meeting shall be made known by notice published at least ten (10) days before the meeting in a newspaper of general circulation in the county(ies) in which the stationary source or facility is to be located. A copy of such notice shall be included in the application." See a copy of the Public Meeting Notice in Appendix C.

The pre-treatment facility will comply with procedures and regulations outlined in this section in order to obtain the 15-Day PTC.

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 pre-treatment facility 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

1. Varec Candlestick Flare
2. Cummins Emergency Generator

The pre-treatment facility demonstrated compliance with the regulations outlined in this section.

IDAPA 58.01.01.578
DESIGNATION OF ATTAINMENT, UNCLASSIFIABLE, AND NONATTAINMENT AREAS

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

IDAPA 58.01.01.590
NEW SOURCE PERFORMANCE STANDARDS

See compliance review in the federal summary.

IDAPA 58.01.01.591
NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

See compliance review in the federal summary

IDAPA 58.01.01.625
VISIBLE EMISSIONS

1. Varec Candlestick Flare
2. Cummins Emergency Generator

> "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 pre-treatment facility conduct a quarterly inspection of the engine stacks during periods when the flare and emergency generator 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

The pre-treatment facility 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."

The pre-treatment facility will monitor and maintain records of the frequency and the method(s) used (i.e., water) to reasonably control fugitive emissions.

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 58.01.01.676
STANDARDS FOR NEW SOURCES

The flare and emergency generator are each rated less than 10 MMBtu/hr and not applicable to this IDAPA standard.

IDAPA 58.01.01.700-701
PARTICULATE MATTER-PROCESS WEIGHT LIMITATIONS

The pre-treatment facility maintains only fuel burning equipment. Therefore, this rule is not applicable to the facility.

IDAPA 58.01.01.775
RULES FOR CONTROL OF ODORS

The pre-treatment facility 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."

The pre-treatment facility 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:

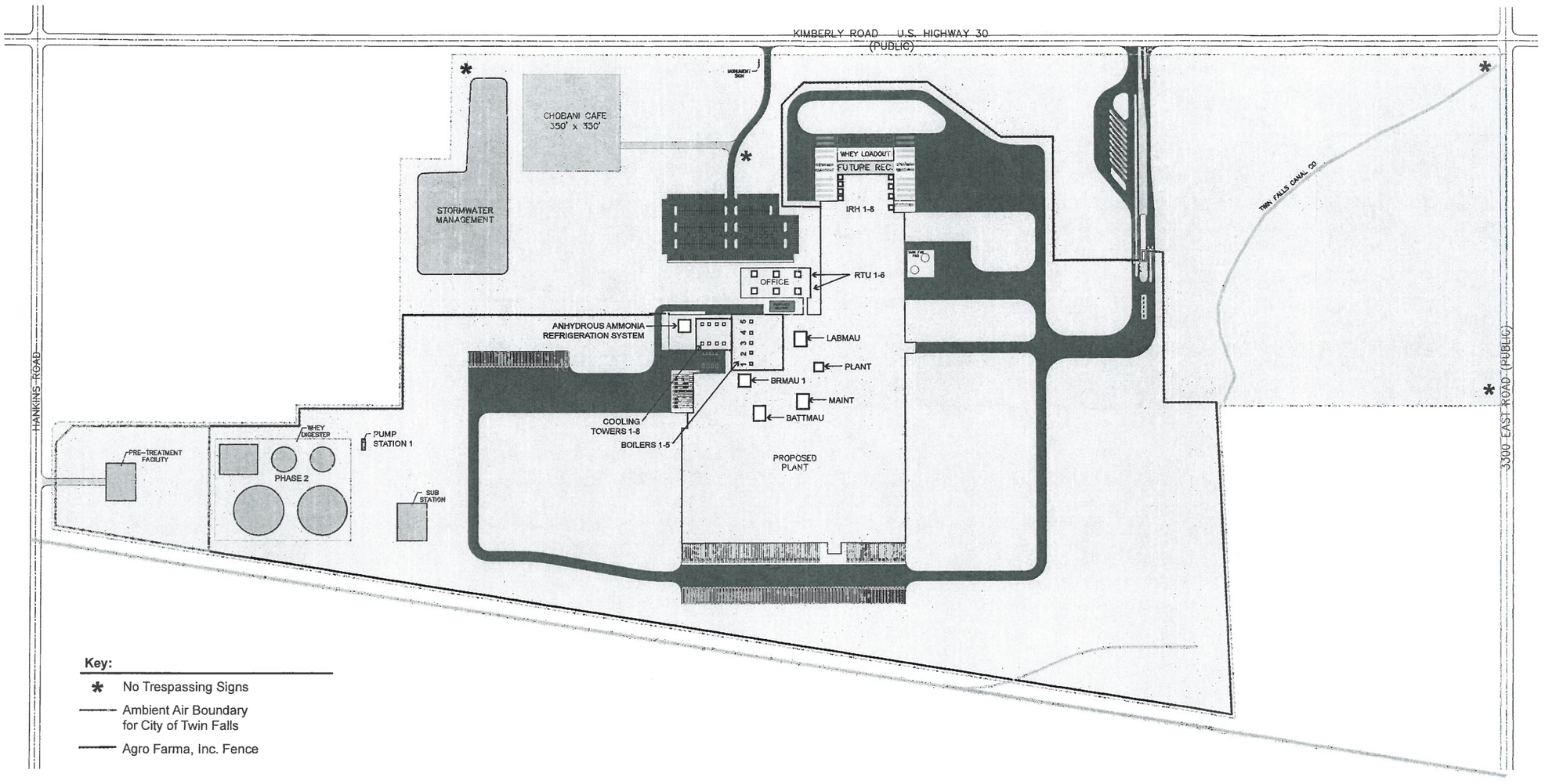
> **IDAPA 58.01.01.786.01 General Restrictions**
>
> "No person shall allow, suffer, cause or permit any incinerator to discharge more than 0.2 pounds of particulates per 100 pounds of refuse burned."

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 D, PM emissions of biogas combustion is in compliance with the PM standard for incineration.

Figures

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



Key:

- ✱ No Trespassing Signs
- ——— Ambient Air Boundary for City of Twin Falls
- ——— 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
City of Twin Falls
Pre-Treatment Plant
Twin Falls, Idaho

TC-MS
00-00-2011
-
-

C0.1

21" GRAVITY SEWER (BY OTHERS)

HIGHLAND AVE E ROADWAY IMPROVEMENTS

HIGHLAND AVE E

21" GRAVITY SEWER (BY OTHERS)

MAIN SLIDING GATE, SEE DETAIL X

ASPHALT DRIVE

6" PTF BYPASS (BY OTHERS)

X" SANITARY SEWER

FUTURE UASB CONDITIONING TANK (16.4'Ø)

UASB CONDITIONING TANK (16.4'Ø)

FUTURE WHEY TANK

ODOR CONTROL FACILITY

AGROFARMA FENCE (BY OTHERS)

GREASE TRAP, SEE DETAIL X

CONCRETE PAD FOR SLUDGE COLLECTION

UASB REACTOR (45.6'Ø)

FUTURE UASB REACTOR (45.6'Ø)

FUTURE EXPANSION AREA

PRETREATMENT FACILITY BUILDING

UASB SLUDGE TANK (31.25'Ø)

FUTURE UASB SLUDGE TANK (31.25'Ø)

WASTE GAS FLARE

CHAINLINK FENCE, SEE DETAIL X

FACILITY PARKING

500 GAL PROPANE TANK

DRIVEABLE GRAVEL SURFACE

X" WATER LINE

POWER TRANSFORMER

CHEMICAL STORAGE TANK (9'Ø)

FUTURE CHEMICAL STORAGE TANK (9'Ø)

12" DAF INFLUENT

ENGINE GENERATOR

FUTURE DAF SLUDGE TANK (25.6'Ø)

DAF SLUDGE TANK (25.6'Ø)

HANKINS ROAD

SITE LOCATION PLAN

1" = 20'

PROFESSIONAL ENGINEER — 14466 — STATE OF IDAHO — JODIL BURNS

NO.	DATE	DSGN	DR	CHK	REVISION	BY	APVD
		J.BURNS	A.ROLLINS	B. ROBERTS		S.NORMANDIN	

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

CH2MHILL®

CIVIL
SITE LOCATION PLAN

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

DATE	MARCH 21, 2012
PROJ	429376
DWG	C01
SHEET	XX of XX

FILENAME: B C01.dgn PLOT DATE: 2012\03\21 PLOT TIME: 1:52:12 PM

COAGULENT PUMPING AND STORAGE

POLYMER PUMPING AND STORAGE

WASTEWATER FROM AGRA FARMA

HCL

PRE-TREATMENT EQUALIZATION TANK

CS-1

DAF FEED PUMP 1

CS-1

DAF FEED PUMP 2

DAF UNIT

DAF FLOAT PUMP 2

DAF FLOAT PUMP 2

SLUDGE STORAGE TANK

PRESSURIZATION TANK COMPRESSOR 1

PRESSURIZATION TANK COMPRESSOR 2

AIR RECEIVER

AIR FLOW CONTROL PANEL

PRESSURIZATION TANK

CS-1

DAF PRESSURIZATION/ RECYCLE PUMP 1

CS-1

DAF PRESSURIZATION/ RECYCLE PUMP 2

AS

FEED PUMP 1

AS

FEED PUMP 2

DAF PACKAGE SYSTEM

DAF SLUDGE TRUCK LOADOUT

CONDITIONING TANK

BIOGAS TO FLARE

PLANT EFFLUENT TO SEWER

UASB REACTOR

CS-1

UASB FEED PUMP 1

CS-1

UASB FEED PUMP 2

UASB SLUDGE PUMP 1

UASB SLUDGE PUMP 2

UASB SLUDGE STORAGE TANK

UASB PACKAGE SYSTEM

UASB TRUCK LOADOUT

PROFESSIONAL ENGINEER STATE OF IDAHO PRELIMINARY

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
DSGN	G.DAVIS	M.KOEPSEL				S.HOEKEMA	

TWIN FALLS WASTEWATER TREATMENT PLANT
AGRO-FARMA PTF AND WWTP IMPROVEMENTS
CITY OF TWIN FALLS
TWIN FALLS, IDAHO

CH2MHILL

WORK PACKAGE B
GENERAL
PROCESS FLOW DIAGRAM

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DATE	FEBRUARY 20, 2012
PROJ	429376
DWG	G.18
SHEET	XX of XX

FILENAME: B G18.dgn PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

Appendix A

IDEQ Facility Determination

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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

C. L. "BUTCH" OTTER, GOVERNOR
TONI HARDESTY, DIRECTOR

January 13, 2012

VIA EMAIL

Rick McCormick, Project Manager
CH2M HILL
322 E. Front St. Suite 200
Boise, ID 83702

RE: Agro Farma, Inc. – Chobani Facility and Twin Falls Wastewater Pre-Treatment Facility, Twin Falls
Separate Facilities Concurrence

Dear Mr. McCormick:

On January 5, 2012, the Department Environmental Quality (DEQ) received a Justification Memorandum entitled " Demonstration that the Agro Farma Twin Falls – Chobani Facility and City of Twin Falls Wastewater Pre-Treatment Facilities are Separate Facilities" from CH2M HILL.

DEQ concurs that the Agro Farma Chobani Facility and the City of Twin Falls Wastewater Pre-Treatment Facility are separate facilities based on the following information provided in the Justification Memorandum:

- The facilities do not belong to the same major industrial group. The SIC code for Agro Farma is 2026 and the SIC code for the City of Twin Falls Pre-Treatment Facility is 4952.

- The facilities do not share common control. The City of Twin Falls Pre-Treatment Facility is owned by the City of Twin Falls Wastewater Department, a government entity, while the Agro Farma Facility is owned by Agro Farms, a private entity. The facilities do not share a common workforce, plant managers, security forces, corporate executive officers, or board of executives. The facilities also have separate administrative functions.

- The City of Twin Falls Pre-Treatment Facility will not be a support facility for the Agro Farma Facility. There is no contract between the facilities which requires the Agro Farma wastewater discharges be treated by the pre-treatment facility. In addition, the City of Twin Falls is not contractually restricted to accepting only wastewater from the Agro Farma facility and may at any time use the pre-treatment facility to treat other wastewater flows.

In concurring that the Agro Farma Chobani Facility and the City of Twin Falls Wastewater Pr-Treatment Facility are separate facilities, each facility is required to obtain and maintain permits for its own equipment. Compliance with air quality requirements resides with each facility and the conditions contained in any respective permit.

If you have any questions about this letter or about the air quality permitting process, please contact me at (208) 373-0502 or kelli.wetzel@deq.idaho.gov.

Sincerely,

Kelli Wetzel

Kelli Wetzel
Permit Writer
Air Quality Division

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

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	City of Twin Falls
2. Facility Name	Waste Water Pre-Treatment Facility 3. Facility ID No.
4. Brief Project Description - One sentence or less	Operation of a new pre-treatment facility flaring biogas from anaerobic digestion

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.: Date Issued:
☐ 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: 1	☐
☐	☒	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: ____	☐
☐	☒	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
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:
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

FACILITY INFORMATION

4. Primary Facility Permit Contact Person/Title	Jacqueline Fields / City Engineer			
5. Telephone Number and Email Address	208-735-7273 / jfields@tfid.org			
6. Alternate Facility Contact Person/Title	Troy Vitek		Asst. City Engineer	
7. Telephone Number and Email Address	208-735-7256		tvitek@tfid.org	
8. Address to Which the Permit Should be Sent	324 Hansen Street 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	Twin Falls	Twin Falls	Idaho	83301
12. Is the Equipment Portable?	☐ Yes ☒ No			
13. SIC Code(s) and NAICS Code	Primary SIC: 4952	Secondary SIC:	NAICS: 221320	
14. Brief Business Description and Principal Product	Pre-treatment of effluent waste water. Biogas is produced as a result anaerobic digestion.			
15. Indentify any adjacent or contiguous facility that this company owns and/or operates	None			
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	Jacqueline Fields - City Engineer		
18. Responsible Official Address	324 Hansen Street E, Twin Falls, ID 83301		
19. Responsible Official Telephone Number	208-7357273		
20. Responsible Official Email Address	jfields@tfid.org.		
21. Responsible Official's Signature	Jacqueline D Fields	Date:	5-2-12

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

Instructions for Form GI

This form is used by DEQ to identify a company or facility, equipment locations, and personnel involved with the permit application. Additional information may be requested.

1 – 3. Please fill in 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.

4. Name of the primary person who should be contacted regarding this permit.

5. Telephone number and e-mail address of person listed in 4.

6. Name of the person who should be contacted if the person listed in 4 is not available.

7. Telephone number and e-mail address of person listed in 6.

8 - 9. Address to which DEQ should mail the permit.

10 – 11. Physical address at which the equipment is located (if different than 9).

12. If the equipment is portable (such as an asphalt plant), identify by marking "yes." If there are other locations where you know the portable equipment will be used, attach a Portable Equipment Relocation Form (PERF) to list those locations. An electronic copy of the PERF can be obtained from the DEQ website at http://www.deq.idaho.gov/media/576773-ptc_relocation.pdf or http://www.deq.idaho.gov/media/576769-ptc_relocation.doc (for Word format).
Important note: In addition to being submitted with this PTC application, a PERF must also be completed and filed at DEQ at least 10 days in advance of relocating any of the equipment covered in this application.

13. Provide the Standard Industrial Classification (SIC) code and the North American Industry Classification System (NAICS) code for your plant. NAICS codes can be found at http://www.census.gov/epcd/naics02/naicod02.htm. If a secondary SIC code is applicable, provide it also.

14. Describe the primary activity and principal product of your business as it relates to the SIC code or NAISC code listed in line 13.

15. Please indicate if there are any other branches or divisions of this company located on adjacent or contiguous properties.

16. Check the box which describes the type of permit application.

For existing Tier I facilities that are applying for a PTC the applicant must specify how the PTC will be incorporated to the Tier I permit (IDAPA 58.01.01.209.05; Call the Air Permit Hotline if you have questions 1-877-573-7648).

17 – 21. Provide the name, title, telephone number, email address of the facilities responsible official. Responsible official is defined in IDAPA 58.01.01.006.94. The Responsible official must sign and date the application before it is submitted to DEQ.

22. If you would like to review a draft before the final permit is issued, check this box.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
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	

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 #: Date Issued:
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):	274,800 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
1410 N. Hilton, Boise, ID 83706
For assistance, call the
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 #: Date Issued:		
5. Engine Displacement:	1.12 (liters per cylinder)	6. Ignition Type:	☒ Compression ☐ Spark
7. Use	☒ Emergency ☐ Non-Emergency		
8. Engine ID Number:	9. Maximum Rated Engine Power:		
175 kW Gen 01 (324 HP)	_____ Brake Horsepower (bhp)		
10. Construction Date:	11. Manufacturer:	12. Model:	13. Model Year:
(To be installed in 2012	Cummins	DSGAD	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.):

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**	**PERMIT TO CONSTRUCT APPLICATION** Revision 3 4/5/2007

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

Company Name:	City of Twin Falls
Facility Name:	Waste Water Pre-Treatment Facility
Facility ID No.:	
Brief Project Description:	Operation of a new pre-treatment facility flaring biogas from anaerobic digestion

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

1.	2.	3.											
		PM_{10}		SO_2		NO_x		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Candlestick Flare	Flare	0.09	0.39	8.54	37.39	0.47	2.07	2.58	11.28	0.44	1.92		
Emergency Generator	Gen1	0.11	0.01	0.00	0.00	2.14	0.11	1.86	0.09	1.37	0.07		
(insert more rows as needed)													
Total		0.20	0.40	8.54	37.39	2.61	2.18	4.44	11.37	1.81	1.99		

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton, Boise, ID 83706 For assistance, call the **Air Permit Hotline - 1-877-5PERMIT**	**PERMIT TO CONSTRUCT APPLICATION** Revision 3 4/5/2007

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

Company Name:	City of Twin Falls
Facility Name:	Waste Water Pre-Treatment Facility
Facility ID No.:	
Brief Project Description:	Operation of a new pre-treatment facility flaring biogas from anaerobic digestion

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

1.	2.	3.											
		PM_{10}		SO_2		NO_x		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													

Instructions for Form EI-CP1

This form is designed to provide the permit writer and air quality modeler with a summary of the criteria pollutant emissions of each emission unit/point located at the facility. This information may be used by the IDEQ to perform an air quality analysis or to review an air quality analysis submitted with the permit application or requested by the IDEQ.

Please fill in the same company name, facility name, facility ID number, and brief project description as on form CS in the boxes provided. This is useful in case any pages of the application get separated.

1. Provide the name of all emission units at the facility. This name must match names on other submittals to IDEQ and within this application.

2. Provide the identification number for the stack which the emission unit exits.

3. Provide the emission rate in pounds per hour and tons per year for all criteria pollutants emitted by this point source. In this form, emission rates for a point source are the maximum allowable emissions for both short term (pounds per hour) and long term (tons per year). These emission rates are its permitted limits (if any). Otherwise, potential to emit should be shown. Potential to emit is defined as uncontrolled emissions at maximum design or achievable capacity (whichever is higher) and year-round continuous operation (8760 hours per year) if there are no federally enforceable permit limits on the emission point. If the emission point has or will have control equipment or some other proposed permit limitation such as hours of operation or material usage, the control efficiency or proposed permit limit(s) may be used in calculating potential to emit.

NOTE: Attach a separate sheet of paper, or electronic file, to provide additional documentation on the development of the emission rates. Documentation can include emissions factors, throughput, and example calculations.

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

PERMIT TO CONSTRUCT APPLICATION

Revision 3
4/5/2007

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

Company Name:	City of Twin Falls
Facility Name:	Waste Water Pre-Treatment Facility
Facility ID No.:	
Brief Project Description:	Operation of a new pre-treatment facility flaring biogas from anaerobic digestion

SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS

		1.		2.	3.	4.		5.
Criteria Pollutants	**Averaging Period**	**Significant Impact Analysis Results (µg/m3)**	**Significant Contribution Level (µg/m3)**	**Full Impact Analysis Results (µg/m3)**	**Background Concentration (µg/m3)**	**Total Ambient Impact (µg/m3)**	**NAAQS (µg/m3)**	**Percent of NAAQS**
$PM_{2.5}$	24-hour	NA		5.40	21.30	26.70	35	76%
	Annual	NA		0.50	7.20	7.70	15	51%
NO_2	1-hr	NA		184.90		184.90	188	98%
	Annual	NA		62.10		62.10	100	62%
SO_2	1-hr	NA		109.40	33.10	142.50	196	73%
	Annual	NA		6.30	2.60	8.90	80	11%

Instructions for Form MI1

This form is designed to provide the air quality modeler with a summary of the air impact analysis results for the criteria pollutants. This information will be used by IDEQ to determine compliance demonstration with the national ambient air quality standards (NAAQS).

Please fill in the same company name, facility name, facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

Significant Impact Analysis - Evaluates the emissions increase from the proposed project only. This analysis determines whether or not a proposed project has a significant impact on ambient air, and therefore, requires a full impact analysis.

Full Impact Analysis - Only required if the significant impact analysis exceeds the significant contribution level - evaluates the emissions from the facility, including the emissions increase from the proposed project. This analysis determines whether the facility, with the emissions increase, complies with the NAAQS.

1. Provide the results of the significant impact analysis in $\mu g/m^3$.
2. Provide the results of the full impact analysis in $\mu g/m^3$ (if required).
3. List the background concentration in mg/m3. Contact the Stationary Source Modeling Coordinator at (208) 373-0502 for the current background concentrations for the area of interest. (Not needed if full impact analysis is not required.)
4. Provide the total ambient impact in mg/m3. The total ambient impact is the sum of the background concentration and the full impact analysis result.
5. Calculate the percent of the NAAQS that the total ambient impact analysis represents.

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

PERMIT TO CONSTRUCT APPLICATION

Revision 3
3/27/2007

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

Company Name:	City of Twin Falls
Facility Name:	Waste Water Pre-Treatment Facility
Facility ID No.:	
Brief Project Description:	Operation of a new pre-treatment facility flaring biogas from anaerobic digestion

POINT SOURCE STACK PARAMETERS

1. Emissions units	2. Stack ID	3a. UTM Easting (m)	3b. UTM Northing (m)	4. Base Elevation (m)	5. Stack Height (m)	6. Modeled Diameter (m)	7. Stack Exit Temperature (K)	8. Stack Exit Flowrate (acfm)	9. Stack Exit Velocity (m/s)	10. Stack orientation (e.g., horizontal, rain cap)
Point Source(s)										
Emergency Generator	Gen	711,840.00	##########	1,163.30	3.05	0.20	679.00	3,256.00	47.30	Vertical
Flare	Flare	711,876.09	##########	1,163.10	7.26	0.46	1,273.00	7,144.00	20.00	Vertical
(insert more rows as needed)										

Instructions for Form MI2

This form is designed to provide the air quality modeler with information on the stack characteristics of each point source located at the facility. This information may be used by the IDEQ to perform an air quality analysis or to review an air quality analysis submitted with the permit application or requested by the IDEQ.

Please fill in the same company name, facility name, facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

1. Provide the name of the emission unit. This name should match names on other submittals to IDEQ and within this application.
2. Provide the identification number for the stack which the emission unit exits.
3. Provide the UTM locations for each point source. The UTM Easting and UTM Northing are the coordinates for the center of the point source.
4. Provide the elevation of the base of the stack. This elevation must be calculated by the same method as the buildings and receptor elevation.
5. Provide the height of the stack, from the ground.
6. Provide the stack diameter that is included in the modeling analysis. Refer to the State of Idaho Modeling Guideline for guidance on developing the appropriate diameter.
7. Provide the stack exit temperature. Include documentation and justification for the exit temperature used.
8. Provide the stack exit flowrate. Include documentation and justification for the exit flowrate used.
9. Provide the stack exit velocity. Include documentation and justification for the exit velocity used.
10. Provide the orientation of the stack (horizontal or vertical). Indicate whether there is an obstruction on the stack, such as a raincap.

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

PERMIT TO CONSTRUCT APPLICATION

Revision 3
4/5/2007

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

Company Name:	City of Twin Falls
Facility Name:	Waste Water Pre-Treatment Facility
Facility ID No.:	
Brief Project Description:	Operation of a new pre-treatment facility flaring biogas from anaerobic digestion

BUILDING AND STRUCTURE INFORMATION

1. Building ID Number	2. Length (ft)	3. Width (ft)	4. Base Elevation (m)	5. Building Height (m)	6. Number of Tiers	7. Description/Comments
PTB	76.00	94.00	1163.30	6.10	1	
USABR		45.60	1163.10	6.10		Tank with 45.6ft diameter
USABS		32.30	1163.20	9.14		Tank with 32.3ft diameter
DAFS		25.60	1163.30	7.92		Tank with 25.6ft diameter
UASBC		16.40	1163.10	3.66		Tanks with 16.4ft diameter

Instructions for Form MI4

This form is designed to provide the air quality modeler with information on the buildings and structures located at the facility. This information may be used by the IDEQ to perform an air quality analysis or to review an air quality analysis submitted with the permit application or requested by the IDEQ.

Please fill in the same company name, facility name, facility ID number, and brief project description in the boxes provided. This is useful in case any pages of the application get separated.

1. Provide the building ID number.
2. Provide the length of the building.
3. Provide the width of the building.
4. Provide the base elevation of the building. This elevation must be calculated by the same method as the sources and receptor elevation.
5. Provide the height of the building, from the ground.
6. Provide the number of tiers on the building. Refer to the State of Idaho Modeling Guideline for guidance on this topic.
7. Provide a description of the building.

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

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): Supart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines ☐ 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

Public Meeting Announcement

Affidavit of Publication

STATE OF IDAHO)
COUNTY OF TWIN FALLS) SS.

I, Ruby Aufderheide, being first duly sworn upon oath, depose and say that I am Legal Clerk of the TIMES-NEWS,published daily at, Twins Falls, Idaho, and do solemnly swear that a copy of the notice of advertisement, as per clipping attached, was published in the regular and entire issue of said newspaper, and not in any supplement thereof, for one ~~consecutive~~ publication, commencing with the issue dated 22nd day of April, 2012 and ending with the issue dated 22nd day of April, 2012

And I do further certify that said newspaper is a consolidation, effective February 16, 1942, of the Idaho Evening Times, published theretofore daily except Sunday, and the Twin Falls News, published theretofore daily except Monday, both of which newspapers prior to consolidation had been published under said names in said city and county continuously and uninterruptedly during a period of more than twelve consecutive months, and said TIMES-NEWS, since such consolidation, has been published as a daily newspaper except Saturday, until July 31, 1978, at which time said newspaper began daily publication under said name in said city and county continuously and uninterrupted.

And I further certify that pursuant to Section 60-108 Idaho Code, Thursday of each week has been designated as the day on which legal notice by law or by order of any court of competent jurisdiction within the state of Idaho to be issued thereof Thursday is announced as the day on which said legal will be published.

Ruby Aufderheide

Ruby Aufdeheide, Legal Clerk

STATE OF IDAHO
COUNTY OF TWIN FALLS

On this 23rd day of April, 2012, before me,

a Notary Public, personally appeared Ruby Aufdeheide,
known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that he executed the same.

Linda Capps-McGuire

Notary Public for Idaho
Residing at Twin Falls, Idaho.

My commision expires: 5-19-15

LINDA CAPPS-McGUIRE
NOTARY PUBLIC
STATE OF IDAHO

PUBLIC MEETING ANNOUNCEMENT
City of Twin Falls
New Pre-Treatment Facility
Near Hankins Road and U.S. Hwy 30
Twin Falls, Idaho

informational meeting will be held at the City Council chambers located at 305 Third Ave. East in Twin Falls, Idaho from 5 to 6 PM on Thursday May 3, 2012 in accordance with the Rules for the Control of Air Pollution in Idaho, Idaho dministrative Code, **IDAPA 58.01.01.213.02 - Permit to onstruct Procedures for Pre-Permit Construction.**

ne purpose of the meeting is to inform the general public of the City of Twin Falls air quality impacts associated with a new aste water pre-treatment plant. Air quality impacts will primarily e from flaring biogas and periodic operation of an emergency iesel generator. Biogas is generated through the anaerobic digestion of organic solids. Biogas consists mostly of methane and carbon dioxide and trace amounts of nitrogen, hydrogen ulfide, and water vapor. This meeting will serve to fulfill the air uality pre-permit construction requirement per IDAPA 8.01.01.213.02

PUBLISH: April 22, 2012

Appendix D

Emission Estimates

City of Twin Falls Pre-Treatment

Criterial Pollutants and HAPs Summary

Criteria Pollutants	PM10		PM2.5		CO		NOx		SOx		VOC		HAPs
Emissions Unit Name	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(ton/yr)
Flare	0.09	0.39	0.09	0.39	2.58	11.28	0.47	2.07	8.54	37.39	0.44	1.92	4.01
Emergency Generator	0.11	0.005	0.11	0.005	1.86	0.09	2.14	0.11	0.0001	0.000003	1.37	0.07	0.004
Totals	**0.20**	**0.39**	**0.20**	**0.39**	**4.43**	**11.37**	**2.62**	**2.18**	**8.54**	**37.39**	**1.81**	**1.99**	**4.01**

City of Twin Falls Pre-Treatment

Idaho TAPS

Toxics	Uncontrolled Flare Emission Rate (lb/hr)	Controlled Generator Emission Rate (lb/hr)	Facility Wide Emission Rate (lb/hr)	IDAPA 58.01.01.585/586 - EL (lb/hr)	PTE Emission Rate vs. EL
Acetaldehyde		3.01E-03	3.01E-03	3.00E-03	**Exceeds**
Acrolein		3.63E-04	3.63E-04	1.70E-02	Below
Ammonia	3.71E-02		3.71E-02	1.20E+00	Below
Benzene	1.84E-03	3.66E-03	5.50E-03	8.00E-04	**Exceeds**
Formaldehyde	1.36E-02	4.63E-03	1.82E-02	5.10E-04	**Exceeds**
Hydrogen Sulfide	5.05E-01		5.05E-01	9.33E-01	Below
Naphthalene		3.32E-04	3.32E-04	9.10E-05	**Exceeds**
o-Xylenes		1.12E-03	1.12E-03	2.90E+01	Below
Toluene		1.60E-03	1.60E-03	2.50E+01	Below
1,3-Butadiene		1.53E-04	1.53E-04	2.40E-05	**Exceeds**
Total PAH	1.62E-04	1.54E-05	1.78E-04	9.10E-05	**Exceeds**

City of Twin Falls Pre-Treatment

GHG Emissions

Emissions Unit Name	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
Flare	4531.04	4994.56	0.0085	0.0094	0.085	0.094	4,535.48	4,999.46
Emergency Generator	144.96	159.79	0.0012	0.0013	0.0059	0.0065	145.45	160.33
Total	**4,676.00**	**5,154.36**	**0.01**	**0.01**	**0.09**	**0.10**	**4,680.93**	**5,159.79**

City of Twin Falls Pre-Treatment - Biogas Flare

Heat Input (MMBtu/hr)	6.96	
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)	278,400	Based on Varec maximum flow of 11,600 ft^3/hr
Biogas Primary Fuel Use (MMscf/hr)	0.0116	
Operation (hrs/yr)	8,760	
Biogas Primary Fuel Use (MMscf/yr)	102	
Hydrogen Sulfide (H_2S) Biogas Concentration (ppmv)	5,000	Based on engineering judgement and Agro Farma's NY plant COD/S ratio
H_2S Biogas Concentration (mg/m^3)	6,973	
Uncontrolled H_2S Mass Feedrate (lb/hr)	5.0	
Assumed H_2S Conversion for SO_2 Emissions	90%	

				Uncontrolled Potential to Emit		
Criteria Pollutant	**CAS No.**	**Emission Factor [1]**		**Emission Rate (lb/hr)**	**Emission Rate (lb/yr)**	**Emission Rate (ton/yr)**
Total Particulate Matter (PM) [2]		7.6	lb MM cf NG	0.09	772	0.39
Nitrogen Oxides (NOx)		0.068	lb/MM Btu	0.47	4,146	2.07
Sulfur Dioxide (SO_2) [3]		H_2S / SO_2 Mass Balance		8.54	74,773	37.39
Carbon Monoxide (CO)		0.37	lb/MM Btu	2.58	22,559	11.28
VOC		0.06	lb/MM Btu	0.44	3,841	1.92

			Primary Fuel - Biogas Controlled Potential to Emit					
Toxic Air Pollutants - H_2S	**CAS No.**	**Emission Factor [4] (% Destruction)**	**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%	5.05E-01	7.88E+03	3.94E+00	9.33E-01	Below	HAP

			Primary Fuel - Biogas [5] Uncontrolled Potential to Emit					
Toxic Air Pollutants - Others [5]	**CAS No.**	**Digester Gas Emission Factor ($lb/10^6$ scf)**	**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	3.71E-02	3.25E+02	1.63E-01	1.20E+00	Below	
Benzene	71-43-2	1.59E-01	1.84E-03	1.62E+01	8.08E-03	8.00E-04	**Exceeds**	HAP
Formaldehyde	50-00-0	1.17E+00	1.36E-02	1.19E+02	5.94E-02	5.10E-04	**Exceeds**	HAP
Total PAHs	na	1.40E-02	1.62E-04	1.42E+00	7.11E-04	9.10E-05	**Exceeds**	
Total HAPS					**4.01**			

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 Managment District (SCAQMD).

GHG Emissions			
Compound[6]	Emissions (metric tons)	GWP	CO2e
CO_2	4531.04	1	4531.039
CH_4	0.0855	21	1.795
N_2O	0.00855	310	2.649
Total	4531.13		4535.48

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	=	4531.04
Fuel = Volume of fuel used (standard cubic feet)	=	101,616,000
HHV = High Heat Value from Table C-1 (mmBTU/scf)	=	0.000841
EFCO2 = Emission factor (kg/mmBTU)	=	53.02

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	=	0.0855
N2O = Annual N2O mass emissions in Metric Tons	=	0.00855
Fuel = Volume of fuel used (standard cubic feet)	=	101,616,000
HHV = High Heat Value from Table C-1 (mmBTU/scf)	=	0.000841
EFCH4 = Emission factor (kg/mmBTU)	=	1.00E-03
EFN2O = Emission factor (kg/mmBTU)	=	1.00E-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

City of Twin Falls Pre-Treatment Faciliy IDAPA Rule 786 PM Standard for Incineration	
Biogas combustion rate (scfm) [1]	193
Biogas methane content	65%
Methane density (lb/ft^3) [2]	0.0448
Hourly methane combustion rate ("refuse" lb/hr) [3]	338
Flare PM emission rate (lb/hr) [1]	0.09
PM emission rate (lb PM/lb refuse)	2.61E-04
PM emission rate (lb PM/ 100 lb refuse)	0.026
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 %)

City of Twin Falls Pre-Treatment - Emergency Generator

Generator Name	Cummins	EPA Tier 3
Model No.	QSB7-G5 NR3	
Engine Power Rating (hp)	324	
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	54	0.03	0.11	10.7	0.005
Particulate Matter ($PM_{2.5}$)[2]	0.15		0.11	54	0.03	0.11	10.7	0.005
Nitrogen Oxides (NOx)[3]	3.00		2.14	1,071	0.54	2.14	214	0.11
Sulfur Oxides (SO_2)[4]		0.00002	0.0001	0.03	0.00001	0.0001	0.006	0.000003
Carbon Monoxide (CO)[5]	2.60		1.86	929	0.46	1.86	186	0.09
TOC as VOC[6]		0.35	1.37	686	0.34	1.37	137.20	0.07

			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	9.14E-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	2.31E+00	1.16E-03	4.63E-03	4.63E-01	2.31E-04	5.10E-04	Exceeds	HAP
Naphthalene	91-20-3	8.48E-05	3.32E-04	1.66E-01	8.31E-05	3.32E-04	3.32E-02	1.66E-05	9.10E-05	Exceeds	HAP
Toluene	108-88-3	4.09E-04	1.60E-03	8.02E-01	4.01E-04	1.60E-03	1.60E-01	8.02E-05	2.50E+01	Below	HAP
o-Xylenes	1330-20-7	2.85E-04	1.12E-03	5.59E-01	2.79E-04	1.12E-03	1.12E-01	5.59E-05	2.90E+01	Below	HAP
Acetaldehyde	75-07-0	7.67E-04	3.01E-03	1.50E+00	7.52E-04	3.01E-03	3.01E-01	1.50E-04	3.00E-03	Exceeds	HAP
Acrolein	107-02-8	9.25E-05	3.63E-04	1.81E-01	9.07E-05	3.63E-04	3.63E-02	1.81E-05	1.70E-02	Below	HAP
1,3-Butadiene	106-99-0	3.91E-05	1.53E-04	7.66E-02	3.83E-05	1.53E-04	1.53E-02	7.66E-06	2.40E-05	Exceeds	HAP
Benz(a)anthracene	56-55-3	1.68E-06	6.59E-06	3.29E-03	1.65E-06	6.59E-06	6.59E-04	3.29E-07			
Benzo(b)fluoranthene	205-99-2	9.91E-08	3.88E-07	1.94E-04	9.71E-08	3.88E-07	3.88E-05	1.94E-08			
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			
Benzo(g,h,i)perylene	191-24-2	4.89E-07	1.92E-06	9.58E-04	4.79E-07	1.92E-06	1.92E-04	9.58E-08			
Chrysene	218-01-9	3.53E-07	1.38E-06	6.92E-04	3.46E-07	1.38E-06	1.38E-04	6.92E-08			
Dibenzo(a,h)anthracene	53-70-3	5.83E-07	2.29E-06	1.14E-03	5.71E-07	2.29E-06	2.29E-04	1.14E-07			
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			
Benzo(a)pyrene	50-32-8	1.88E-07	7.37E-07	3.68E-04	1.84E-07	7.37E-07	7.37E-05	3.68E-08			
Total PAH[8]			1.54E-05	7.69E-03	3.84E-06	1.54E-05	1.54E-03	7.69E-07	9.10E-05	Below	
Total HAPS					0.004						

Notes:

[1] Controlled PTE is based on 52 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] TOC exhaust is based on AP-42, Section 3.3 Gasoline and Diesel Industrial Engines, Table 3.3-1, 10/96, Diesel Fuel

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

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

GHG Emissions			
Compound [9]	Emissions (metric tons)	GWP	CO2e
CO_2	144.96	1	144.96
CH_4	0.0059	21	0.12
N_2O	0.0012	310	0.36
Total	144.97		145.45

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

[9] 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

Appendix E

Manufacturer Data

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

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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**				**Prime**				**Continuous**
	kW (kVA)				**kW (kVA)**				**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-3516 (8/11)

Power Generation

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.

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

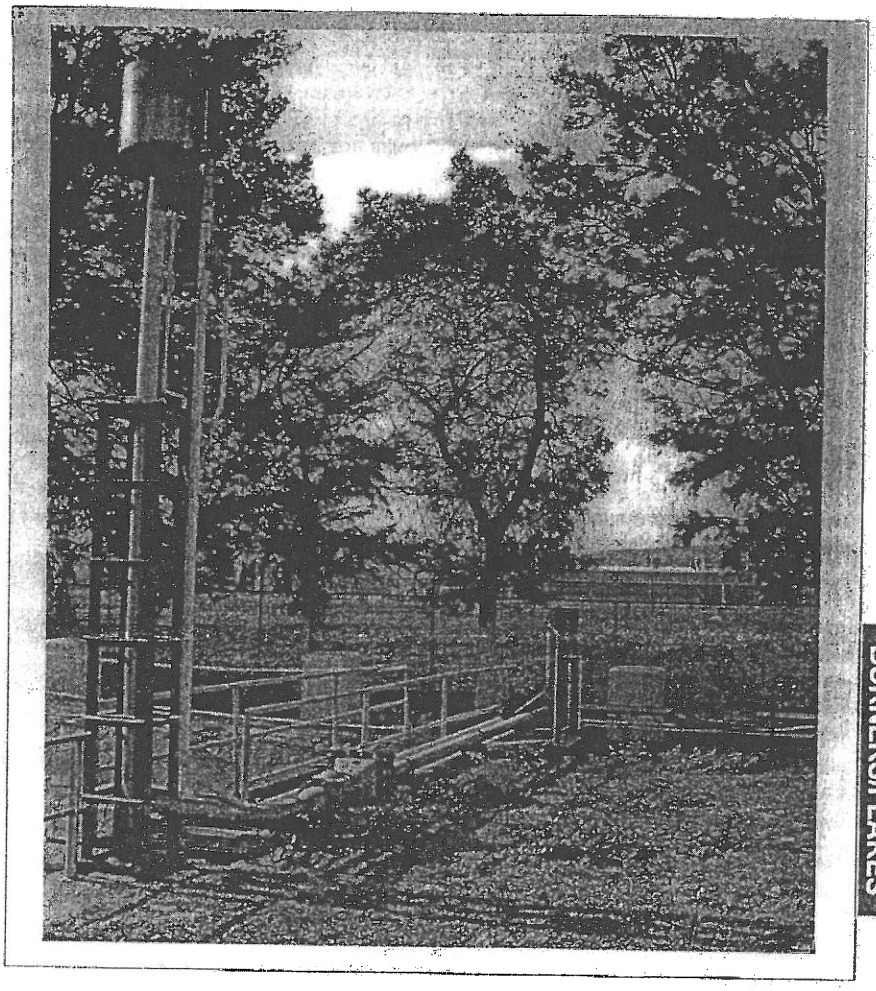
Excess biogas must be disposed of safely. The gas is flared to avoid an odor nuisance or an explosion hazard. Biogas is generated through the anaerobic digestion of organic solids. It is produced in municipal or industrial anaerobic digesters, lagoons, and municipal landfills. Biogas is typically a highly-moist 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.

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	11800	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 flowrates given are based upon Schedule 10 pipe leading up to the burner. Different schedule pipe will have different maximum recommended flowrates.

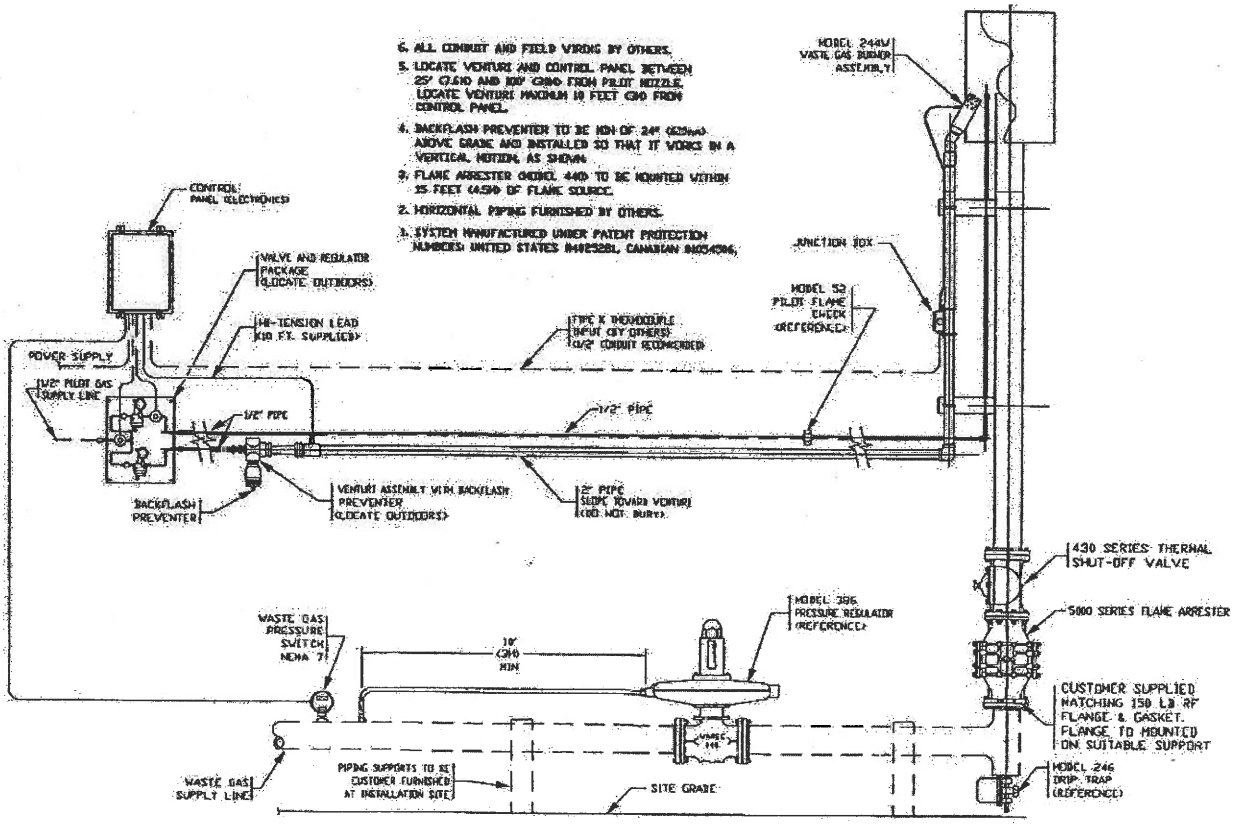


Figure 02: 244WS - Venturi with Varec Biogas 386 Series Regulator and 450 Series Flame Trap Assembly

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

Appendix F

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
TONI HARDESTY, DIRECTOR

April 13, 2012

VIA EMAIL

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

RE: Modeling Protocol Approval for the 15-Day Pre-Permit to Construct Application for the City of Twin Falls Waste Water Pre-Treatment Facility in Twin Falls, Idaho

Dear Mr. McCormick:

DEQ received a dispersion modeling protocol from you, on behalf of the City of Twin Falls, on March 23, 2012. The modeling protocol proposes methods and data for use in Class II area ambient air impact analyses in support of a 15-Day Pre-Permit Construction Authorization Permit to Construct (15-Day PTC) application for a wastewater pre-treatment plant (WWPTP) with anaerobic digesters producing biogas that will be flared. The proposed site is located on a parcel of property that will be leased from the Chobani Idaho, Inc., dairy processing facility in Twin Falls, Idaho.

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

- **Comment 1: Equipment Listing.** This protocol approval is based on the following emissions sources:
    - One biogas-fired flare designed to combust approximately 11,600 cubic feet per hour (ft^3/hr) of biogas with a typical heat content of 600 British thermal units per standard cubic feet (Btu/scf).
    - One emergency backup electrical generator engine fired on diesel and rated at 324 brake horsepower (bhp).

- **Comment 2: National Ambient Air Quality Standards.** Based on the distances of the emission points to the ambient air boundary (45 feet for the flare and 30 feet for the generator engine stack) and the relatively short stack release heights for both sources (18.8 feet for the flare and 10 feet for the generator) the Level I modeling thresholds provided in Table 2 of the *State of Idaho Guideline for Performing Air Quality Impact Analyses*, Doc. I D AQ-011, (rev. 2 July 2011) are applicable for this project.

Modeling will not be required to demonstrate compliance with the 1-hour average carbon monoxide, the 24-hour average PM_{10}, and the 3-month rolling average lead National Ambient Air Quality Standards (NAAQS).

- **Comment 3: Background Concentrations.** In the event the project's requested potential emissions cause ambient impacts that exceed an applicable significant contribution level a cumulative impact analysis will be required for that pollutant. DEQ's recommended ambient background concentrations follow:

  - $PM_{2.5}$: 21.3 $\mu g/m^3$, 24-hour average, based on the three year average of the 98th percentile values.

    7.2 $\mu g/m^3$, annual average, based on the 3-year average of the annual mean value.

    The $PM_{2.5}$ background concentrations were based on Twin Falls monitoring data collected from 2000 through 2002.

  - SO_2: 33.1 $\mu g/m^3$, 1-hour average, and
    2.6 $\mu g/m^3$, annual average.

    Due to the limited monitoring data for SO_2 within Idaho that are typically available from source-influenced sites, and which would be considered to be non-representative of the conditions at this site, DEQ has provided ambient background that are believed to be conservative for the Twin Falls area. These SO_2 background values were based on monitoring data for the Fargo, North Dakota/Moorhead, Minnesota area, which was deemed to be more suitable for the Twin Falls site than either the Pocatello, Idaho, or the Soda Springs, Idaho monitoring sites.

    DEQ requests that the Twin Falls WWPTP model the potential SO_2 emissions from The Amalgamated Sugar Company (TASCO) facility as nearby, or co-contributing source, in the cumulative SO_2 impact analyses for those receptors where the Twin Falls WWPTP facility's maximum impacts exceed the 1-hour and/or annual SO_2 significant impact level(s) (SILs).

    The primary SO_2 sources and the potential emission rates at the TASCO facility for the co-contributing source analysis include the following:

    - PB1 (Foster Wheeler Boiler): 344 pounds per hour (lb/hr);
    - PB2 (Babcock and Wilcox Boiler): 474 lb/hr; and,
    - PD1A (Pulp Dryer): 34 lb/hr.

    The modeling input file includes a monthly operation factors to reflect the operating schedule of the Pulp Dryer (PD1A) for the facility's typical annual operating schedule.

- NO_2: The determination of the 1-hour and annual NO_2 background concentrations is affected by the lack of local ambient monitoring in the Twin Falls area. Idaho DEQ has adopted the EPA interim SIL of 7.5 $\mu g/m^3$, 1-hour average, for use in 1-hour NO_2 significant impact analyses. For Tier I and Tier II compliance options for the conversion of NO_x to NO_2, DEQ requests that the City of Twin Falls use an ambient background value of 81.5 $\mu g/m^3$, 1-hour average, based on the 3-year average of 2009, 2010, and 2011 98^{th} percentile values of NO_2 monitoring data at the Meridian site.

  The Twin Falls WWPTP facility will be located on the edge of Twin Falls and is surrounded primarily by a mixture of agricultural land and light industry. An appropriate application of the default background concentrations for this project is an average value based on the default small town/suburban background value of 32 $\mu g/m^3$, annual average, and the default rural agricultural background of 17 $\mu g/m^3$, annual average. The recommended background value for NO_2 is 24.5 $\mu g/m^3$, annual average.

  In the event a Tier 3 compliance method is used for the 1-hour average NO_2 standard modeling demonstration, the figure included in Attachment 1 to this letter contains a daily set of hourly ozone and NO_2 ambient background concentrations for the analyses. If a Tier 3 compliance method is used for a 1-hour average NO_2 NAAQS demonstration the current default in-stack NO_2 to NO_x ratio of 0.5 should be used unless an alternative source-specific value is supported and adequately documented in the permit application.

  Because the Twin Falls WWPTP will be located on a plot of property leased from the Chobani facility, and the Chobani facility NAAQS compliance demonstration's margin of compliance with the 1-hour average NO_2 NAAQS, the Chobani facility will need to be considered for a nearby source in a co-contribution analysis for the 1-hour average, and annual average NO_2 NAAQS at receptors where the Twin Falls WWPTP has a significant impact for NO_2.

  DEQ will provide the electronic modeling setup files used by the TASCO Twin Falls facility and the Chobani facility from past projects, which the City of Twin Falls may modify and incorporate in their modeling demonstration as appropriate. Please contact DEQ to request any files needed.

  If your modeling demonstration predicts that there are problems complying with the SO_2, 1-hour average NAAQS, please contact DEQ to discuss refinements to the background concentration, and possibly the TASCO nearby source emission inventory's monthly operation schedules for the facility's two primary boilers.

- **Comment 3: Justification of Release Parameters.** The modeling protocol included documentation on the release parameters for the sources in the modeling analysis. In

most instances, typical 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.

Be advised that an increase in the assumed stack release height is generally accompanied by a decrease in exit temperature, volumetric flow rate, and exit velocity if heat transfer from the stack is a significant loss factor. An example of the difference in release parameters that the location of the point of sampling in the exhaust system can make can be illustrated by the exhaust parameter supporting test data submitted for another project. The source tested was a diesel-fired 288 brake horsepower fire water pump driver engine and was conducted at full load conditions using Reference Methods 2 and 4.

Cummins CFP83-F40 Fire Pump Driver Exhaust Parameters		
Source of Data	**Exhaust Temperature (degrees Fahrenheit)**	**Exhaust Flow Rate (CFM)**
Manufacturer's Specification Sheet at operating at 288 bhp [a, b]	952	1632[c]
Engine Test Report[d]	685	1028

a. Brake horsepower.
b. Manufacturer testing condition barometric pressure at 29.53 inches Hg.
c. Reported as "CFM."
d. Test port location was listed as 4 feet below the stack exit height.
The source was modeled with a release height of 18 feet.
Testing was conducted at an elevation of 4200 feet above sea level.
Temperature and flow rate values were averaged based on four runs lasting from 3 to 5 minutes each.

- **Comment 4: Receptor Grid.** The receptor grid proposed appears to be appropriate for to determine the project's design concentrations, considering the relatively flat terrain in the immediate area. For areas where the impacts are greatest creating one or more additional densely spaced grids may be beneficial in resolving the maximum impacts. This can become an important issue if DEQ performs a sensitivity analysis using a denser receptor grid and that analysis predicts that any applicable ambient standards are exceeded. In that case, the permit will be denied.

- **Comment 5: Emission Inventory.** The permit engineer for this project will review the emission estimates for this project after the official PTC package is received.

- **Comment 6: 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.

- **Comment 7: Ambient Air Boundary.** The methods that will be used to preclude public access to the area being claimed as exempt from ambient air meet the requirements of DEQ's Air Quality Modeling Guideline.

- **Comment 8: Emergency Generator Modeling Assumptions.** Please provide a description of any operational factors applied to modeling emergency generator for testing and maintenance purposes in the modeling report. AERMOD provides several options which may be appropriate for your 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

Attachment 1

NO_2 and Ozone Background Concentrations

Idaho DEQ Default NO_2 and Ozone Data for PVMRM or OLM analyses for NOx Ambient Impacts

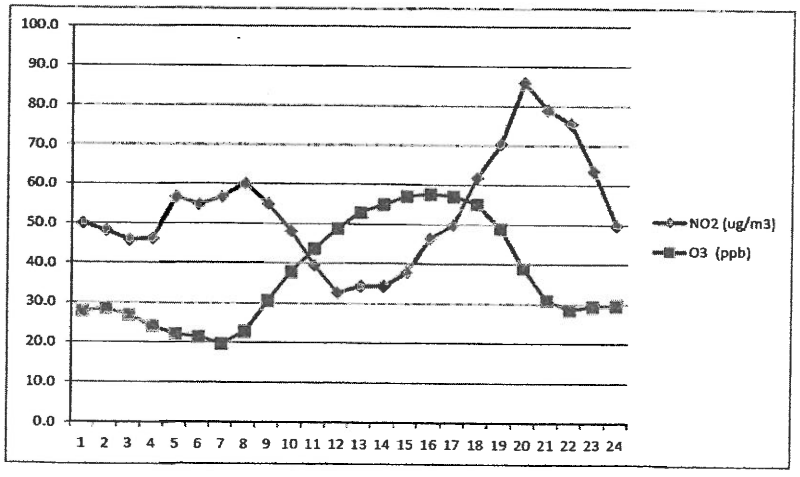
Questions: Contact Kevin Schilling, kevin.schilling@deq.idaho.gov Issue Date: June 16, 2011

PLEASE DO NOT USE THESE DATA FOR PERMITTING ANALYSES WITHOUT PRIOR APPROVAL FROM DEQ

Hour by hour background NO2 data were based on monitoring data collected between June 2009 and June 2010 in Meridian Idaho. A separate background value was generated for each hour of the day, based on the 2nd highest value monitored for that hour in the 1-year dataset.

Hourly ozone data were taken from the 2007 study, Ozone and its Precursors in the Treasure Valley, Idaho (final report, may 2008, Desert Research Institute). Hourly data were collected from Parma Idaho from June 27, 2007 through October 12, 2007. These data were sorted by hour and then the mean and the standard deviation was calculated for each hour across all days. For each hour modeled, a background ozone value equal to the mean plus one standard deviation was generated.

Hour	NO_2 (ug/m3)	O_3 (ppb)
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



ATTACHMENT 2

Chobani Twin Falls Facility

NO_x Emission Rates

For the

Co-Contribution Source Analysis

CHOBANI TWIN FALLS MODELED SHORT-TERM EMISSIONS RATES		
Source ID	**Description**	**NO_x[a], 1-hour average (lb/hr)[b]**
BOILER1	Boiler 1	2.32
BOILER2	Boiler 2	2.32
BOILER3	Boiler 3	2.32
BOILER4	Boiler 4	2.32
BOILER5	Boiler 5	2.32
BRMAU1	Boiler Room Makeup Air Unit	0.35
LABMAU	Lab Makeup Air Unit	0.08
BATTMAU	Battery Makeup Air Unit	0.35
RTU1	Rooftop Heater 1	0.05
RTU2	Rooftop Heater 2	0.05
RTU3	Rooftop Heater 3	0.05
RTU4	Rooftop Heater 4	0.05
RTU5	Rooftop Heater 5	0.05
RTU6	Rooftop Heater 6	0.05
PLANT	Meeting/RR/Office Rooftop Heater	0.03
MAINT	Maintenance Rooftop Heat	0.11
IR1	Infrared Heater Unit	0.02
IR2	Infrared Heater Unit	0.02
IR3	Infrared Heater Unit	0.02
IR4	Infrared Heater Unit	0.02
IR5	Infrared Heater Unit	0.02
IR6	Infrared Heater Unit	0.02
IR7	Infrared Heater Unit	0.02
IR8	Infrared Heater Unit	0.02

a. Nitrogen oxides.
b. Pounds per hour.

Air Dispersion Modeling Protocol City of Twin Falls Pre-Treatment Facility Twin Falls, Idaho

Prepared for
City of Twin Falls

Submitted to
Idaho Department of Environmental Quality

March 2012

CH2MHILL®

Air Dispersion Modeling Protocol

Project Background

On behalf of the City of Twin Falls, CH2M HILL, Inc. is preparing a minor source air quality Pre-Construction Permit application for a new waste water pre-treatment facility located in Twin Falls, Idaho. The Pre-Construction Permit limits a new facility's potential to emit (PTE) to below major source thresholds in accordance with Rules for the Control of Air Pollution in Idaho, IDAPA.58.01.01.213.

The new waste water pre-treatment facility will consist of one biogas candlestick flare and one diesel emergency generator as stationary emitting sources. The pre-treatment facility is located on a parcel of land owned by Agro Farma, Inc. (southwest corner bordered by Hankins Road to the west and a railroad to the South). Refer to the site plan provided with this protocol (Figure 1).

The City of Twin Falls will be leasing the property from Agro Farma, Inc. A previous determination was approved by the Idaho Department of Environmental Quality (IDEQ) that the City owned and operated pre-treament facility and the dairy facility owned and operated by Agro Farma, Inc. are separate entities that each require their own air quality Permit-to-Construct (PTC).

A pre-permit application meeting was held with IDEQ on February 28, 2012 to discuss the emission sources, dispersion modeling, and process of obtaining an air quality PTC for the City of Twin Falls.

An air quality impact analysis will be performed in support of a PTC required under IDAPA 58.01.01.200. Idaho regulation requires the facility applying for a PTC demonstrate compliance with the National Ambient Air Quality Standards (NAAQS).

This air dispersion modeling protocol is being submitted to the IDEQ on behalf of the City of Twin Falls. This document summarizes the modeling methodology that will be used to evaluate the facility's impacts to air quality with respect to criteria and 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 Air Quality Modeling Guideline* (ID AQ-01, December 31, 2002).

Process Description

The City of Twin Falls will own and operate a waste water pre-treatment facility. Waste water from the Agro Farma equalization tanks will be pumped to the DAF system. The DAF system includes a coagulation and flocculation chamber for addition of chemical/polymer to aid in the FOG/TSS removal in the DAF tank. In the DAF tank, small air bubbles are used to float the FOG to the top of the tank. The DAF float is skimmed and pumped to a DAF float storage tank. The underflow from the DAF is pumped through a set of heat exchangers to a UASB conditioning tank.

In the USAB conditioning tank, the DAF effluent stream is blended and the conditioned waste water is pumped into the influent feed distribution system located at the bottom of the USAB reactor. In the USAB (anaerobic) reactor, the granular biomass degrades the COD and produces biogas. The biomass and biogas mixture rise in the reactor and contact a series of 3 phase separators located at the top of the reactor. The separator system performs the function of degassing the biomass so the biomass can settle back down to the sludge bed while the biogas is directed to the candlestick flare.

An emergency diesel generator will be used to power the facility in case of an electric power failure.

Ambient air will be defined as fencing surrounding the leased perimeter boundary (see Figure 1).

An air dispersion modeling protocol was prepared by CH2M HILL and submitted to DEQ on March 23, 2012. The source parameters and modeling assumptions were identified within the modeling protocol. The protocol was approved via e-mail by DEQ on April 13, 2012, provided that specific comments were addressed. The air dispersion modeling protocol and DEQ approval are included in Appendix F. This appendix outlines the modeling methodology, inputs, and results.

Modeled Pollutants

Facility-wide emissions were compared to DEQ's Level I Screening Levels, as summarized in Table 1. Modeling is not required to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) for PM_{10}, CO, or lead. An ambient air impact analysis was performed for $PM_{2.5}$, NO_2, and SO_2.

TABLE 1
Emission Rates and Modeling Thresholds

Pollutant	Averaging Period	Facility Total Emission Rate	IDEQ Modeling Threshold	Modeling Required
PM_{10}	24-hour	0.20 lb/hr	0.22 lb/hr	No
$PM_{2.5}$	24-hour	0.20 lb/hr	0.054 lb/hr	Yes
	Annual	0.39 tpy	0.35 tpy	Yes
CO	1-hour, 8-hour	4.43 lb/hr	15 lb/hr	No
NO_x	1-hour	2.62 lb/hr	0.2 lb/hr	Yes
	Annual	2.18 tpy	1.2 tpy	Yes
SO_2	1-hour	8.54 lb/hr	0.21 lb/hr	Yes
	Annual	37.39 tpy	1.2 tpy	Yes

Facility-wide toxic air pollutant (TAP) emissions were compared to the screening emission levels (EL) in IDAPA 58.01.01.585 and 58.01.01.586. Any TAP that has an emissions increase that exceeds the EL must be modeled to demonstrate that ambient concentrations are below the acceptable ambient concentrations (AAC) and acceptable ambient concentration for carcinogens (AACC). The TAPs that required modeling are acetaldehyde, benzene, formaldehyde, naphthalene, 1,3-butadiene, and total PAH. All TAP emissions and screening levels are summarized in Table 2.

TABLE 2
Facility Toxic Air Pollutant Emissions Summary

Pollutant	Facility Total Emission Rate (lb/hr)	IDAPA 58.01.01.585/586 Screening Level (lb/hr)	Comparison to Screening Level
Acetaldehyde	3.01E-03	3.00E-03	Exceeds
Acrolein	3.63E-04	1.70E-02	Below
Ammonia	3.71E-02	1.20E+00	Below
Benzene	5.50E-03	8.00E-04	Exceeds
Formaldehyde	1.82E-02	5.10E-04	Exceeds
Hydrogen Sulfide	5.05E-01	9.33E-01	Below

TABLE 2
Facility Toxic Air Pollutant Emissions Summary

Pollutant	Facility Total Emission Rate (lb/hr)	IDAPA 58.01.01.585/586 Screening Level (lb/hr)	Comparison to Screening Level
Naphthalene	3.32E-04	9.10E-05	Exceeds
o-Xylenes	1.12E-03	2.90E+01	Below
Toluene	1.60E-03	2.50E+01	Below
1,3-Butadiene	1.53E-04	2.40E-05	Exceeds
Total PAH	1.78E-04	9.10E-05	Exceeds

Modeling Methodology

The EPA-recommended AERMOD dispersion modeling system was used to estimate TAP air quality impacts. AERMOD (Version 12060) was run with the following default options:

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

The use of the BETA version of AERMOD was approved by DEQ for this project in order to consider the horizontal releases from three of the Agro Farma modeled sources.

Pollutant concentrations were calculated at all locations considered to be ambient air. Receptor locations in AERMOD were selected as follows:

- Discrete receptors spaced 25 meters around the property line
- A 50-meter grid extended approximately 200 meters
- A 100-meter grid extended approximately 1 kilometer

U.S. Geological Survey (USGS) National Elevation Dataset (NED) terrain data were used in conjunction with the AERMAP pre-processor (version 09040) to determine receptor elevations and terrain maxima. All receptor, source, and building coordinates are in the NAD 83 datum.

AERMOD ready meteorological data was provided by DEQ for 2006 through 2010. Meteorological data was processed using surface data from Twin Falls Joslin Field and included 1-minute ASOS data.

Emissions were modeled from the biogas flare and the diesel emergency generator. Both sources were treated as point sources with a vertical release.

Generator exhaust data are based on Cummins data sheet per exhaust flow at set rate load. Stack flow calculations converting SCFM to ACFM are included in Appendix G. Because the generator stack height will be 5 feet taller than the height indicated in the Cummins data sheet, DEQ advised that the stack parameters be adjusted to account for a decrease in temperature, volumetric flow rate, and exhaust velocity. Using DEQ's example case provided in Comment 3 of the Protocol Approval Letter and based on good engineering judgment, a 15% net reduction in exit temperature and flow rate was assumed. The modeled stack parameters in Table 3 reflect these adjustments.

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 includes:

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

TABLE 3
AERMOD Release Parameters

Source Type	Source ID	Source Height (ft)	Diameter (in)	Flow Rate (acfm)[1]	Velocity (m/s)	Temperature (F)	Notes
Generator	GEN	10	8.0	3256	47.3	762	Vertical
Flare	FLARE	23.8	18.2		20.0	1832	Vertical

Notes

[1] SCFM to ACFM calculations are provided in Appendix G.

Model Results

Facility Criteria Pollutant Impacts

Criteria pollutant modeling results due to the Twin Falls Pretreatment Facility are summarized in Table 4. Background concentrations were provided by DEQ. The sum of modeled concentration and background concentration were compared to the NAAQS. Model output shows that all criteria pollutant concentrations are below the NAAQS.

TABLE 4
Criteria Pollutant Modeling Results

Pollutant	Averaging Period	Maximum Concentration (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	NAAQS (µg/m³)
$PM_{2.5}$	24-hour	5.4	21.3	26.7	35
$PM_{2.5}$	Annual	0.5	7.2	7.7	15
NO_2	1-hour	184.9	See Note[a]	184.9	188
NO_2	Annual	62.1	See Note[b]	62.1	100
SO_2	1-hour	109.4	33.1	142.5	196
SO_2	Annual	6.3	2.6	8.9	80

[a] 1-hour NO_2 model results are the 5-year average of the high-8th-high daily maximum and include hourly background concentrations.
[b] Annual NO2 model results include hourly background concentrations

Cumulative NO_2 Impacts

DEQ identified the Agro Farma facility as a nearby facility that must be included in the cumulative NO_2 impact analyses for 1-hour and annual NO_2. DEQ provided the Agro Farma stack parameters and emissions, and they are summarized in Tables 5 and 6.

TABLE 5
Agro Farma Point Source Modeling Parameters

Source Type	Release Type	Stack Height (meters)	Temperature (Kelvin)	Exit Velocity (meter/second)	Stack Diameter (meters)	NO_2 Emission Rate (lb/hr)
Natural Gas Boiler Stack1	Vertical	15.85	472	18.86	0.61	2.32
Natural Gas Boiler Stack2	Vertical	15.85	472	18.86	0.61	2.32
Natural Gas Boiler Stack3	Vertical	15.85	472	18.86	0.61	2.32
Natural Gas Boiler Stack4	Vertical	15.85	472	18.86	0.61	2.32
Natural Gas Boiler Stack5	Vertical	15.85	472	18.86	0.61	2.32
Boiler Room MAU	Horizontal	14.63	313	15.24	1.27	0.35

TABLE 5
Agro Farma Point Source Modeling Parameters

Source Type	Release Type	Stack Height (meters)	Temperature (Kelvin)	Exit Velocity (meter/second)	Stack Diameter (meters)	NO_2 Emission Rate (lb/hr)
Lab MAU	Horizontal	14.63	313	15.24	0.50	0.08
Battery MAU	Horizontal	14.63	313	15.24	1.27	0.35
Plant Offices RTU	Vertical	14.63	313	15.24	0.50	0.03
Maintenance RTU	Vertical	14.63	313	15.24	0.50	0.11
Roof Top Unit1	Vertical	14.63	313	15.24	0.50	0.05
Roof Top Unit2	Vertical	14.63	313	15.24	0.50	0.05
Roof Top Unit3	Vertical	14.63	313	15.24	0.50	0.05
Roof Top Unit4	Vertical	14.63	313	15.24	0.50	0.05
Roof Top Unit5	Vertical	14.63	313	15.24	0.50	0.05
Roof Top Unit6	Vertical	14.63	313	15.24	0.50	0.05

TABLE 6
Agro Farma Volume Source Modeling Parameters

Source Type	Release Height (meters)	Initial Horizontal Dimension (meters)	Initial Vertical Dimension (meters)	NO_2 Emission Rate (lb/hr)
Infra Red Heater1	8.53	0.024	3.97	0.02
Infra Red Heater2	8.53	0.024	3.97	0.02
Infra Red Heater3	8.53	0.024	3.97	0.02
Infra Red Heater4	8.53	0.024	3.97	0.02
Infra Red Heater5	8.53	0.024	3.97	0.02
Infra Red Heater6	8.53	0.024	3.97	0.02
Infra Red Heater7	8.53	0.024	3.97	0.02
Infra Red Heater8	8.53	0.024	3.97	0.02

Agro Farma is not required to account for impacts on their own property, so all receptors within the Agro Farma property boundary were removed. The impacts due to Twin Falls Pretreatment Facility at those receptors were already determined to not exceed the NAAQS, as shown in Table 4.

The results of the cumulative NO2 analysis are shown in Table 7. The 1-hour and annual NO2 NAAQS were not exceeded.

TABLE 7
Cumulative NO_2 Modeling Results

Pollutant	Averaging Period	Maximum Concentration (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	NAAQS (µg/m³)
NO_2	1-hour	184.9	See Note[a]	184.9	188
NO_2	Annual	62.6	See Note[b]	62.6	100

[a] 1-hour NO_2 model results are the 5-year average of the high-8th-high daily maximum and include hourly background concentrations.
[b] Annual NO2 model results include hourly background concentrations

Cumulative SO_2 Impacts

DEQ identified The Amalgamated Sugar Company (TASCO) facility as a nearby facility that must be included in the cumulative SO_2 impact analyses for 1-hour and annual SO_2. The TASCO stack parameters and emissions were provided by DEQ. Emissions from source and PD1A were modeled according to the provided operational schedule, which indicated emission only occurred during the months of September through March. TASCO modeling parameters are summarized in Table 8.

TABLE 8
TASCO Modeling Parameters

Source Type	Release Type	Stack Height (meters)	Temperature (Kelvin)	Exit Velocity (meter/second)	Stack Diameter (meters)	SO_2 Emission Rate (lb/hr)
PB1 Foster Wheeler Boiler	Vertical	47.85	416	15.06	2.01	344
PB2 Babcock and Wilcox Boiler	Vertical	66.14	456	22.56	2.74	474
PD1A Pulp Dryer	Vertical	28.04	348	6.87	2.44	34

The cumulative modeling results for annual SO_2 indicated that the NAAQS would not be exceeded, as summarized in Table 9.

TABLE 9
Criteria Pollutant Modeling Results

Pollutant	Averaging Period	Maximum Concentration (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	NAAQS (µg/m³)
SO_2	Annual	15.3	2.6	17.9	80

Following the procedures described above, the results of the dispersion modeling analysis indicate there may be modeled exceedances of the 1-hour SO_2 NAAQS of 196 µg/m³. Therefore, post processing of

AERMOD generated output files was conducted to determine the contribution of each competing facility impacts to the modeled exceedance. The procedures below outline the approach.

1. Determine the 99th percentile 1-hour SO_2 concentration averaged over the five modeled years for each receptor.
2. For each receptor that modeled an exceedance of the NAAQS of 196 µg/m³ in step 1, the AERMOD generated MAXDCONT file was used to determine the contribution from each facility during that exceedance.
3. The contribution from each facility were compared to the interim 1-hour SO_2 SIL of 7.8 µg/m³.
4. The contribution from the pre-treatment facility at each impact was below the SIL.

Following the steps above, it was determined that the maximum modeled concentration of the pre-treatment facility during any exceedance of the NAAQS would be 0.02 µg/m³. This is below the interim SIL of 7.8 µg/m³. Therefore, the pre-treatment facility would not cause or significantly contribute to a modeled exceedance of the NAAQS. A detailed summary of the pre-treatment facility's impacts during each modeled exceedance of the NAAQS is attached to this modeling report as shown in Table H-1.

Toxic Air Pollutants

TAP modeling results were compared to the AAC and AACC values for each pollutant. Table 7 shows that all TAP concentrations were below their respective standards.

TABLE 7
TAP Modeling Results

Pollutant	Averaging Period	Maximum Concentration (µg/m³)	AAC/AACC[a] (µg/m³)
Acetaldehyde	Annual	1.47E-02	4.5E-01
Benzene	Annual	1.80E-02	1.20E-01
Formaldehyde	Annual	2.39E-02	7.70E-02
Naphthalene	24-hour	1.62E-02	2500
1,3-butadiene	Annual	7.50E-04	3.60E-03
Total PAH	Annual	1.40E-04	1.40E-02

[a] Naphthalene concentrations must be below AAC. All other TAPs must be below AACC.

Based on the modeling results described, the project complies with all applicable ambient air standards. All modeling files, including the MAXDCONT output files for the 1-hour SO_2 evaluation, are included on CD.

Table H-1
1-hour SO2 Post Processing
Evaluation of Facility Contribution to 1-hour SO2 Exceedance

Receptor		Modeled 99th percentile averaged over 5-years (µg/m³)	Modeled 98th percentile averaged over 5-years Plus Background (µg/m³)	Contribution from Twin Falls Pre-Treatment Facility (µg/m³)				
UTMX	UTMY			2006	2007	2008	2009	2010
710700	4712300	166.33	199.43	0.00267	0.0065	0.0107	0.01357	0.00943
710900	4712300	188.25	221.35	0.00013	0.00011	0.00058	0.00006	0.00015
711100	4712300	172.23	205.33	0.00013	0.00018	0.00021	0.00015	0.00016
710900	4712400	184.44	217.54	0.00007	0.00011	0.00012	0.0001	0.00006
711000	4712400	175.12	208.22	0.00023	0.00007	0.00018	0.00025	0.00026
711100	4712400	163.02	196.12	0.01933	0.00009	0.00024	0.00011	0.00005
710900	4712500	179.99	213.09	0.0001	0.00005	0.00008	0.00008	0.00003
711000	4712500	175.70	208.80	0.0001	0.00006	0.00003	0.00003	0.00011
710900	4712600	170.39	203.49	0.00012	0.00005	0.00007	0.00007	0.00602
711000	4712600	163.93	197.03	0.00011	0.00008	0.00003	0.00007	0.00006
711500	4711500	240.09	273.19	0.0052	0.00017	0.00076	0.00054	0.00064
712000	4711500	237.47	270.57	0.00061	0.00048	0.00077	0.00061	0.00106
710500	4712000	178.16	211.26	0.00245	0.00214	0.0017	0.0026	0.00303
711500	4712000	174.50	207.60	0.00247	0.00252	0.00318	0.00461	0.00475
709500	4712500	224.99	258.09	0.00049	0.00017	0.00046	0.00055	0.00015
710000	4712500	328.09	361.19	0.00014	0.00019	0.00008	0.00031	0.00032
710500	4712500	209.21	242.31	0.00006	0.00209	0.01185	0.00003	0.00269
709000	4713000	208.55	241.65	0.00078	0.00007	0.00018	0.00029	0.00232
709500	4713000	261.13	294.23	0.00053	0.00048	0.00009	0.00005	0.00006
710000	4713000	167.60	200.70	0.00007	0.00007	0.0087	0.00004	0.00005
709000	4713500	181.52	214.62	0.00291	0.00007	0.00025	0.00212	0.00007

Appendix I

Regulatory Review, 40 CFR 60, Supbart 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.