



February 14, 2011

Hand Delivered February 14, 2011

Nevada Division of Environmental Protection
Bureau of Air Pollution Control, Class I Permitting Branch
901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701

**Re: Application for the Renewal of Class I Operating Permit -
Class I Operating Permit No. AP4911-2189**

Gentlemen:

Enclosed is one complete signed copy of Barrick Goldstrike Mines Inc. - Western 102 Power Plant's application for renewal of our Class I Operating Permit No. AP4911-2189.

Also enclosed is a check for the renewal fee of \$5,000.00.

If you have any questions, please contact the undersigned.

Sincerely,

A handwritten signature in blue ink, appearing to read "L. S. Morasse", written in a cursive style.

Larry Morasse
General Manager – Western 102 Power Plant
Barrick Goldstrike Mines Inc.
775-343-3325 – Office
775-527-0602 – Cell
775-343-3327 – Fax

Attachment: Binder – Class I Operating Permit Application for Renewal c/w 1 CD

Cc: Kevin Lewis – Air Sciences Inc.

Barrick GoldStrike Mines Inc, Barrick Gold of North America, Barrick Exploration 38746377			DATE	11-FEB-11	CHECK NUMBER	1042869
INVOICE NUMBER	INVOICE DATE	DESCRIPTION	DISC. AMOUNT		NET AMOUNT	
MVSSI53248	10-FEB-11	Overnight to power plant Attn Larry Morasse	\$0.00		\$5,000.00	
VENDOR NAME	Nevada State Treasurers Office	TOTAL	\$0.00		\$5,000.00	

Barrick GoldStrike Mines Inc, Barrick Gold of North America, Barrick Exploration 38746377			DATE	11-FEB-11	CHECK NUMBER	1042869
INVOICE NUMBER	INVOICE DATE	DESCRIPTION	DISC. AMOUNT		NET AMOUNT	
MVSSI53248	10-FEB-11	Overnight to power plant Attn Larry Morasse	\$0.00		\$5,000.00	
VENDOR NAME	Nevada State Treasurers Office	TOTAL	\$0.00		\$5,000.00	

*** Get your payment fast! Sign up for electronic payments. For details e-mail dpatzer@barrick.com***

THIS DOCUMENT IS PRINTED ON WHITE PAPER WITH A COLOURED BACKGROUND. THE BORDER CONTAINS MICRO PRINTING AND THE BACK OF THE DOCUMENT CONTAINS A SECURITY WATERMARK - HOLD AT AN ANGLE TO VIEW



Barrick Goldstrike Mines Inc
Barrick Gold of North America
Barrick Gold Exploration
 136 East South Temple Suite 1800
 Salt Lake City UT 84111
 (775) 748 1001

Citibank, N.A.
 One Penn's Way
 New Castle DE 19720

CHECK NUMBER 1042869

~~62-20~~
311

DATE 11-FEB-11

PAY Five Thousand Dollars And 00 Cents*****

\$ *****5,000.00

TO THE ORDER OF

NEVADA STATE TREASURERS OFFICE

Environmental Protection
 901 South Stewart St #4001
 Carson City, NV 89701-5249
 United States

Barrick

PER 

PER 

⑈ 104 2869 ⑈ ⑆ 031 100 209 ⑆ 38 7463 7 ⑈

**Class I Operating
Permit Application for
Renewal**

**Western 102 Power
Plant**

PREPARED FOR:
BARRICK GOLDSTRIKE MINES
INC.

PREPARED BY:
AIR SCIENCES INC.

PROJECT NO. 59-60
FEBRUARY 2011

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State of Nevada
Division of Environmental Protection
Bureau of Air Pollution Control

**APPLICATION FOR
CLASS I OPERATING PERMIT**

Please return to: Nevada Division of Environmental Protection
Bureau of Air Pollution Control, Class I Permitting Branch
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701
(775) 687-9350 FAX (775) 687-6396

General Information

- This application is available from the Bureau of Air Pollution Control in a Microsoft Word file, or on the internet at <http://www.ndep.nv.gov/bapc>. All information required in the application may be computer generated and submitted to the Bureau on 3-1/2" disk(s) or CD(s). In addition, one printed copy must be submitted.
- All information required by the "General Company Information" and by the relevant forms in Appendices 1 through 10 must be completed.
- The application filing fee required by NAC 445B.327 must be submitted with the completed application. The fee for a new PSD permit or major PSD modification is \$50,000. The fee for a new Class I Operating Permit is \$30,000. The fee for a significant revision is \$20,000. The fee for a renewal is \$5,000. Checks must be made payable to: Nevada State Treasurer, Environmental Protection.
- This application packet shall be used for new major sources, significant modifications and sources which become subject to Class I requirements after the effective date (January 11, 1997).
- Separate application forms for specific types of emission units are provided in Appendix 1. They include application forms for: (1) industrial processes, (2) combustion equipment, (3) storage silos, (4) liquid storage tanks and (5) surface area disturbances.
- An application for a Class I operating permit must be signed by a responsible official, as defined in NAC 445B.156. The certification/signature page is contained in Appendix 10.
- All items in the application must be addressed. If an item does not apply "N/A" or similar notation must be entered in the appropriate blank. All other information must be provided. Incomplete applications will be returned to the responsible official within 45 working days of receipt of the application packet.

**Application
for
Class I Air Quality
Operating Permit
(New, Significant Revision, Renewal)**

GENERAL COMPANY INFORMATION

All applicants shall complete each item or explain in the space provided why no information is needed. Please specify "N/A" (Not Applicable) if necessary. The application will be returned to the applicant if it is deemed incomplete.

1. **COMPANY NAME AND ADDRESS THAT ARE TO APPEAR ON THE OPERATING PERMIT**
[NAC 445B.295.1]:

Barrick Goldstrike Mines Inc.

(Name)

In care of Barrick Management Corporation

136 E. South Temple, Suite 1300

(Address)

Salt Lake City

(City)

UT

(State)

84111

(Zip Code)

2. Owner's Name and Address [NAC 445B.295.1]:

Barrick Gold North America

(Name)

136 E. South Temple, Suite 1300

(Address)

Salt Lake City

(City)

UT

(State)

84111

(Zip Code)

3. Source Name and Mailing Address, if different from #1 [NAC 445B.295.1]:

Western 102 Power Plant

(Name)

2555 Waltham Way

(Address)

McCarran

(City)

NV

(State)

89434

(Zip Code)

4. Name and Address of Owner's Agent [NAC 445B.295.1]

N/A

(Name)

(Address)

(City)

(State)

(Zip Code)

5. Physical Location of Stationary Source [NAC 445B.295.8]: (if no physical address, describe location, e.g., 4 miles south of I-80 at xx Interchange)

The facility is located approximately 25 km east of Reno, NV, on the south side of the

Truckee River (2.5 km west of Clark, NV).

Township(s) 29N Range(s) 22E Section(s) 33 & 34

GENERAL COMPANY INFORMATION (CONTINUED)

9. This application is submitted for (please check appropriate boxes below):

A new Class I Operating Permit

- This application is for a source subject to PSD requirements (40 CFR § 52.21).
- This application is for a source subject to the following NSPS requirements (40 CFR § 60):

- This application is for a source subject to the following NESHAP requirements (40 CFR § 63):

A significant modification of an existing Class I Operating Permit

- This application is for a source subject to PSD requirements (40 CFR § 52.21).
- This application is for a source subject to the following NSPS requirements (40 CFR § 60):

- This application is for a source subject to the following NESHAP requirements (40 CFR § 63):

The renewal of an existing Class I Operating Permit

- This application is for a source subject to PSD requirements (40 CFR § 52.21).
- This application is for a source subject to the following NSPS requirements (40 CFR § 60):

- This application is for a source subject to the following NESHAP requirements (40 CFR § 63):
The facility is subject to 40 CFR 63 Subpart ZZZZ.

10. The application must contain, if applicable:

- a. For a proposed new major source, or a proposed significant modification to an existing stationary source which is not subject to the provisions of 40 CFR §52.21, include all information as required by NAC 445B.308 to 445B.313, inclusive [NAC 445B.3368.3(b)].

The Western 102 Power Plant has not triggered a PSD review. Modeling analyses are provided in Appendix 9. The modeling analyses demonstrate that the maximum predicted impacts (including background concentrations) for all pollutants, and for all averaging periods, are less than the Nevada Ambient Air Quality Standards and NAAQS.

- b. For stationary sources subject to the provisions regarding new source review set forth in 42 USC §§7501 - 7515, inclusive (nonattainment areas), all information required by 42 USC §7503 [NAC 445B.3363.2(b)(3)].

The Western 102 Power Plant has not triggered a PSD review. In addition, the facility is located in an area that is in attainment for all criteria pollutants.

GENERAL COMPANY INFORMATION (CONTINUED)

- c. For a proposed new major source or a proposed significant modification to an existing stationary source that is subject to the provisions of 40 CFR §52.21, include all information required by 40 CFR §52.21 [NAC 445B.3368.3(a)].

The Western 102 Power Plant has not triggered a PSD review per 40 CFR §52.21.

- d. For a proposed new major source or a proposed significant modification to an existing stationary source which is subject to the requirements of 42 USC §7412 regarding hazardous air pollutants, include all information required by NAC 445B.308 to 445B.313, inclusive [NAC 445B.3368.3(c)].

The Western 102 Power Plant is not a major HAP source per 42 USC §7412. See Appendix 5, Tables 1 and 2.

- 11. Will the construction occur in more than one phase? Yes No

- 12. If the construction will occur in more than one phase, please provide the projected date of the commencement for each phase of construction:
Phase 1: N/A
Phase 2: _____
Phase 3: _____

- 13. For a new source or modification of a stationary source, provide a Compliance Assurance Monitoring (CAM) plan for all emission units subject to the monitoring requirements of 40 CFR Part 64. For significant revisions provide a CAM plan for those emission units for which a significant revision to the operating permit is requested and which is required pursuant to the monitoring requirements of 40 CFR Part 64. If a CAM plan is not required, provide an explanation. [NAC 445B.295.8]

Potential pre-control device emissions of NOx, CO and formaldehyde from each engine are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NOx, CO and formaldehyde emission limitations. Therefore, each engine is exempt from CAM per 40 CFR § 64.3(b)(vi). See Control Monitoring Plan in Attachment 1.

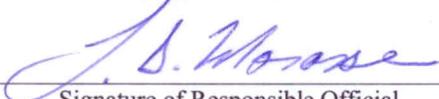
- 14. Compliance Plan/Certification
 - a. Attach a compliance plan, signed by the responsible official, that contains the following with respect to all applicable requirements:
 - (1) A narrative description of the compliance status of the stationary source with respect to all applicable requirements. [NAC 445B.3368.2(h)(1)]

Based on the compliance monitoring requirements of Paragraph 4 under Section VI.A. of Class I Air Quality Operating Permit No. AP4911-2189, existing operations are currently in compliance with all applicable requirements. Additionally, past excess emissions have been reported to NDEP as required by Condition III.B. and III.C. of Class I Air Quality Operating Permit No. AP4911-2189.

GENERAL COMPANY INFORMATION (CONTINUED)

- (2) A compliance certification by a responsible official stating that the stationary source will comply in a timely manner with any new applicable requirements that become effective during the operating permit term. Include a description of the test methods and the requirements for monitoring, enhanced monitoring, recordkeeping and reporting that will be used to comply with the new applicable requirements, fuel use, the rate of production, raw materials, and operating schedules which are used to determine the compliance status of the stationary source. [NAC 445B.3368.2(h)(2)]

I certify that the stationary source will comply, in a timely manner, with any new applicable requirements that become effective during the operating permit term. Compliance demonstration with such new applicable requirements will be based on appropriate test methods, monitoring, record keeping, and reporting.

x 
Signature of Responsible Official

Larry Morasse, General Manager - Western 102 Plant
Print or Type Name and Title

February 14, 2011
Date

- (3) If the stationary source is not in compliance with any applicable requirements at the time the operating permit is issued, include a narrative description and a proposed schedule for achieving compliance which includes remedial measures, an enforceable sequence of actions with milestones, and a schedule to submit certified progress reports every six months. This schedule must be at least as stringent as that contained in any consent decree rendered by a federal court, a court of this state, or an administrative order which applies to the stationary source. [NAC 445B.3368.2(h)(3)III]

N/A. The facility is currently in compliance.

- b. A schedule for submission of compliance certifications during the term of the operating permit, to be submitted annually or more frequently to the Bureau of Air Pollution Control. [NAC 445B.3368.2(i)(3)]

Submission of compliance certification will be on or before March 1 for the preceding calendar year.

15. Application Submittal:

Please remove the cover page, Table of Contents and General Information page and all Attachments of the application packet. Submit the remainder of the application packet as your formal application. This should consist of, at a minimum, the Class I-B Application cover page, the general Company Information, and Appendices 1 through 10.

This application includes the appropriate forms/appendices.

Appendix 1

EMISSION UNIT APPLICATION FORMS

**(Industrial Process/Combustion Equipment/Storage Silo/
Liquid Storage Tank/ Surface Area Disturbance)**

Instructions

PLEASE RESPOND SEPARATELY TO ITEMS 1 through 8 FOR EACH EMISSION UNIT, as appropriate. Each emission unit at the stationary source must be identified by completion of the appropriate application form contained in this appendix. Forms may be duplicated as needed. Complete all applicable attachments (**Appendix 1**) included in this application package [NAC 445B.295].

- Section 1. Equipment Description: Provide information about the Standard Industrial Classification Code (SIC), describe the processes and products by SIC, including any associated with an alternative operating scenario identified in this application, model number, manufacture date, dimensions and UTM coordinates. [NAC 445B.295.3]
- Section 2. Design Rate/Operating Parameters: Describe all production rates, operating schedules and materials used in the process. [NAC 445B.295.3]
- Section 3. Fuel Usage: Describe all fuels and fuel usage. [NAC 445B.295.3]
- Section 4. Pollution Control Equipment/Exhaust Stack Parameters: Identify and describe all air pollution control equipment. [NAC 445B.295.4]
- Section 5. Compliance Monitoring Devices and Activities: Identify and describe any equipment for the control of air pollution and any devices or activities for monitoring compliance with emission limitations. [NAC 445B.295.4]
- Section 6. Work Practice Standards: provide information on limitations on the operation or any standards for work practices which affect emissions for all regulated air pollutants. [NAC 445B.295.5].
- Section 7. Requested Emission Limits: Provide the requested emission limits for each emission unit. Include emission rates of all regulated air pollutants that are subject to an emissions limitation pursuant to an applicable requirement. The emission rates must be described in pounds per hour and tons per year and in such terms as are necessary to establish compliance using the applicable standard reference test method. [NAC 445B.295.8, NAC 445B.3363(d)]
- Section 8. Applicable Requirements, Test Methods, and Compliance Status: One copy of Section 8 is provided following the Liquid Storage Tank Application. Please complete a copy of Section 8 for **each individual application form completed**. [NAC 445B.3363.1(g), 445B.3363.1(h)]

Alternative Operating Scenarios: Complete a separate application form for each emission unit having an alternative operating scenario. (*A common example of an alternative operating scenario is a steam boiler that utilizes natural gas as the primary fuel, but may combust diesel fuel as an alternate fuel source*). Please check the box in the upper right hand corner of each application form for emission units requesting an alternative operating scenario. Additionally, for each emission unit application form requesting an alternative operating scenario:

1. Define each alternative operating scenario [NAC 445B.296.1(a)];
2. Demonstrate that each scenario will comply with each applicable requirement or relevant requirement of NAC 445B.001 to 445B.3497, inclusive [NAC 445B.296.1(b)];
3. Detail proposed conditions, including monitoring and recordkeeping for each alternative operating scenario, which will ensure compliance. Contemporaneous log entries must be provided every time the source changes from one scenario to another [NAC 445B.296.1(c)].
4. Provide emission rates and detailed calculations for each alternative operating scenario in Appendix 4 [NAC 445B.296.1(d)].

Surface Area Disturbance

Complete a Surface Area Disturbance application form for any land disturbances that equal or exceed 5 acres. (*Note: The submittal of a dust control plan is required for each surface area disturbance, as specified in Appendix 7. Please provide the dust control plan in Appendix 7.*)

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an
alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #1
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010206 *Equip. number S2.001
- e. Date equipment manufactured: 7/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,995 meters N; 284,353 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____

Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status			
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)	<u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)	<u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$				
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A			

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u> 1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h). 2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u> These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #2
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010205 *Equip. number S2.002
- e. Date equipment manufactured: 6/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,993 meters N; 284,353 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____
Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack characteristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment</p> <p>1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas:</p> <p>a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat.</p> <p>b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$</p> <p>c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$</p> <p>2. For the purposes of paragraphs b and c of subsection 1:</p> <p>a. "X" means the operating rate in million Btu's per hour.</p> <p>b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment</p> <p>Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
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10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment</p> <p>For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$</p> <p>Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center;">Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #3
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010204 *Equip. number S2.003
- e. Date equipment manufactured: 6/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,993 meters N; 284,356 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____
Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center;">Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.2203, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.2203 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an
alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #4
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010208 *Equip. number S2.004
- e. Date equipment manufactured: 7/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,968 meters N; 284,353 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____

Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

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EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status			
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)	<u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)	<u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$				
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A			

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #5
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010200 *Equip. number S2.005
- e. Date equipment manufactured: 5/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,966 meters N; 284,353 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____

Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

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EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center;">Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u> 1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h). 2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u> These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #6
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010202 *Equip. number S2.006
- e. Date equipment manufactured: 5/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,966 meters N; 284,356 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____
Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center;">Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #7
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010203 *Equip. number S2.007
- e. Date equipment manufactured: 5/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,968 meters N; 284,356 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____
Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack characteristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center;">Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #8
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010198 *Equip. number S2.008
- e. Date equipment manufactured: 4/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,912 meters N; 284,351 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____

Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status			
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)	<u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)	<u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$				
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A			

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EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
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<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #9
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010195 *Equip. number S2.009
- e. Date equipment manufactured: 3/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,910 meters N; 284,351 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____

Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">$Y = 0.7X$ ($Y = 0.4X$)</td> <td style="text-align: center;">$Y = 1.1X$ ($Y = 0.6X$)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	$Y = 0.7X$ ($Y = 0.4X$)	$Y = 1.1X$ ($Y = 0.6X$)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
$Y = 0.7X$ ($Y = 0.4X$)	$Y = 1.1X$ ($Y = 0.6X$)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u></p> <p>1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$</p> <p>2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u></p> <p>SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$)</p> <p>When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u></p> <p>SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an
alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #10
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010196 *Equip. number S2.010
- e. Date equipment manufactured: 3/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,910 meters N; 284,354 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____

Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status			
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u> $Y = 0.7X$ ($Y = 0.4X$)</td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u> $Y = 1.1X$ ($Y = 0.6X$)</td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u> $Y = 0.7X$ ($Y = 0.4X$)	<u>Solid Fuels</u> $Y = 1.1X$ ($Y = 0.6X$)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u> $Y = 0.7X$ ($Y = 0.4X$)	<u>Solid Fuels</u> $Y = 1.1X$ ($Y = 0.6X$)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$				
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A			

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #11
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010199 *Equip. number S2.011
- e. Date equipment manufactured: 5/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,912 meters N; 284,354 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____
Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack characteristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status			
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u> $Y = 0.7X$ ($Y = 0.4X$)</td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u> $Y = 1.1X$ ($Y = 0.6X$)</td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u> $Y = 0.7X$ ($Y = 0.4X$)	<u>Solid Fuels</u> $Y = 1.1X$ ($Y = 0.6X$)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u> $Y = 0.7X$ ($Y = 0.4X$)	<u>Solid Fuels</u> $Y = 1.1X$ ($Y = 0.6X$)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$				
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A			

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #12
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010201 *Equip. number S2.012
- e. Date equipment manufactured: 5/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,885 meters N; 284,350 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____
Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

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Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center;">Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #13
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010194 *Equip. number S2.013
- e. Date equipment manufactured: 3/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,883 meters N; 284,350 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____
Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack characteristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100</td> <td>0.352</td> </tr> <tr> <td>1,000</td> <td>0.206</td> </tr> <tr> <td>10,000</td> <td>0.091</td> </tr> <tr> <td>100,000</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100	0.352	1,000	0.206	10,000	0.091	100,000	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100	0.352														
1,000	0.206														
10,000	0.091														
100,000	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center;">Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an
alternative operating scenario

Section 1 - Equipment Description

- a. Type of equipment Wartsila Natural-gas Reciprocating Internal Combustion Engine #14
- b. Standard Industrial Classification (SIC) Code 4911
- c. Manufacturer of equipment Wartsila
- d. Model number 20V34SG Serial number PAAE 010193 *Equip. number S2.014
- e. Date equipment manufactured: 3/2005
- f. Please check one: Temporary (At the same location for less than 12 months)
 Stationary (At the same location for more than 12 months)
- g. Please check if portable: Portable (transportable or movable within the confines of the stationary source)
- h. UTM Coordinates 4,381,885 meters N; 284,353 meters E; Zone 11
(Please specify NAD 27 or NAD 83)
- i. Basic equipment dimensions (feet): L 42 W 11 H 15

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

- a. **Maximum** design horsepower **OUTPUT** (horsepower per hour) 11,320
(Please provide for internal combustion engines only)
- b. **Maximum** design heat **INPUT** (million Btu per hour) N/A
(Please provide for all combustion units except for internal combustion engines)
- c. *Requested operating time: time of day _____ to _____

Hours per day 24 Days per year 365 Hours per year 8,760

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
N/A	none gallons	N/A	N/A	N/A	N/A
	gallons	N/A	N/A	N/A	N/A
Gasoline	none gallons	N/A	N/A	N/A	N/A
Propane	none gallons	N/A	N/A	N/A	N/A
Natural Gas	77,000 scf	1,000	N/A	N/A	N/A
*Waste Oil	none gallons	N/A	N/A	N/A	N/A
Other	none	N/A	N/A	N/A	N/A

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	SCR	Oxidation Catalyst
Pollutant(s) Controlled	NO_x	CO and VOCs (including VOC HAPs)
Manufacturer	Wartsila	Wartsila
Manufacturer's Guarantee (see Note 1)	94%*	CO – 94%, VOC – 79%, Formaldehyde – 97%*
Stack height (feet from ground level)	54.82	54.82
Stack inside diameter (feet)	3.74	3.74
Temperature (°F) at design capacity	726	726
Stack exit velocity (feet per second)	101	101
Gas volume flow rate: actual cubic feet per minute	66,569	66,569
Gas volume flow rate: dry standard cubic feet per minute	23,000	23,000
Unusual stack characteristics (e.g., raincap, horizontal discharge)	None	None

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

***The manufacturer's guarantees are provided as Attachment 2.**

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

The permit requires the following tests:

- **Periodic compliance tests for NO_x, CO, VOC, PM/PM₁₀ (including condensable), formaldehyde, and opacity will be conducted on an annual basis with no more than one year and 90 days between compliance tests.**

The permit requires the following reference methods:

- **Formaldehyde – Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.**
- **PM – Method 5 of 40 CFR Part 60, Appendix A (with back-half catch).**
- **PM₁₀ – Method 201A and 202 of 40 CFR Part 51, Appendix M. The Method 201A emissions test may be replaced by a Method 5 performance test.**
- **NO_x – Method 7 of 40 CFR Part 60 Appendix A.**
- **CO – Method 10 of 40 CFR Part 60 Appendix A.**
- **VOCs – Method 25/25A of 40 CFR Part 60 Appendix A.**
- **Visible emissions – Method 9 of 40 CFR Part 60 Appendix A concurrent with one of the three required Method 5 or Method 201A and Method 202 performance test runs.**

During each performance test, record the type, quantity, and heat content value of the fuel combusted.

Continuously monitor the fuel consumption, urea/ammonia injection to the SCR catalyst, and the temperature of the SCR catalyst.

Startups are tracked for the purpose of emissions tracking. Each startup is assumed to be 15 minutes (the maximum startup time), and a specific amount of emissions is assigned to each warm and cold startup. In some instances, there may be up to 3 failed startup attempts in a given 15-minute period. For emissions tracking purposes, this is tracked as a single startup. All failed startup attempts that do not include any fuel injection are not logged as startups.

NESHAP- 40 CFR Part 63 Subpart ZZZZ Requirements:

Comply with the applicable emission limitations and operating limitations no later than October 19, 2013. [40 CFR §63.6595(a)(1)]

Performance tests for CO will be conducted in accordance with 40 CFR §§63.6612, 63.6615, 63.6620, and 63.6640.

Monitoring of oxidation catalyst pressure drop and inlet temperature will be conducted in accordance with 40 CFR §§63.6625, 63.6630, 63.6635, and 63.6640.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Install, calibrate, operate, and maintain a fuel flow meter to continuously record the quantity (in standard cubic feet) of the pipeline quality natural gas combusted. The fuel flow meter will be installed at an appropriate location in the fuel delivery system to accurately and continuously measure the fuel combusted.

Install, calibrate, operate, and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed.

Install, calibrate, operate, and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst.

Maintain the computer systems to automatically record and alert if the ammonia/urea injection or catalyst bed temperature are not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions.

Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated, the alarm will be investigated within 1 hour from the time that the alarm notice began, and the alarm event will be recorded within 24 hours. The record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time, and course of remediation.

NESHAP – 40 CFR Part 63 Subpart ZZZZ Requirements:

Beginning October 19, 2013: [40 CFR §63.6595(a)(1)]

Comply with the applicable emission limitations and operating limitations at all times, and operate and maintain the engine, including the oxidation catalyst and associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR §63.6605]

Operate and maintain the engine and oxidation catalyst in accordance with 40 CFR §63.6625.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	2.59	11.34	See Appendix 6.
Particulates as PM ₁₀	2.59	11.34	See Appendix 6.
Sulfur Dioxide	0.58	2.54	See Appendix 6.
Carbon Monoxide	2.42**	10.88	See Appendix 6.
Oxides of Nitrogen	1.49**	6.70	See Appendix 6.
Volatile Organic Compounds	2.42	10.68	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Formaldehyde	0.15	0.71	See Appendix 6.
Total HAPs***	0.35	1.60	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
NH₃	1.30	5.69	See Appendix 6.

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

**Steady state operations.

***All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment</p> <p>1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas:</p> <p>a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat.</p> <p>b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$</p> <p>c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$</p> <p>2. For the purposes of paragraphs b and c of subsection 1:</p> <p>a. "X" means the operating rate in million Btu's per hour.</p> <p>b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment</p> <p>Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100.</td> <td>0.352</td> </tr> <tr> <td>1,000.</td> <td>0.206</td> </tr> <tr> <td>10,000.</td> <td>0.091</td> </tr> <tr> <td>100,000.</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100.	0.352	1,000.	0.206	10,000.	0.091	100,000.	0.025	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100.	0.352														
1,000.	0.206														
10,000.	0.091														
100,000.	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment</p> <p>For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$</p> <p>Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status						
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u></td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u></td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u></td> </tr> <tr> <td style="text-align: center;">Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center;">Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center;">$Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>	Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u>	<u>Solid Fuels</u>	<u>Combination Fuel</u>							
Y = 0.7X (Y = 0.4X)	Y = 1.1X (Y = 0.6X)	$Y = \frac{L(0.7) + S(1.1)}{L + S}$							
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904}$ ($0.292P^{0.904}$) When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A						
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A						

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.2203, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.2203 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Sections 5 and 6	In Compliance.
NSPS – 40 CFR Part 60, Subpart JJJJ	N/A ²	N/A	N/A
Compliance Assurance Monitoring (CAM) – 40 CFR Part 64	N/A ³	N/A	N/A

¹The engine is less than 25 MW and fired solely on natural gas and is therefore eligible for a unit exemption under 40 CFR §72.7.

²The engine was manufactured before July 1, 2007. [40 CFR §60.4230(a)(4)(i)].

³Potential pre-control device emissions of NO_x, CO, and formaldehyde are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO, and formaldehyde emission limitations. Therefore, the engine is exempt from CAM per 40 CFR §64.3(b)(vi).

**COMBUSTION EQUIPMENT
APPLICATION FORM
CLASS I-B**

Check here if this is an
alternative operating scenario

Section 1 - Equipment Description

a.	Type of equipment <u>Emergency Diesel Generator</u>
b.	Standard Industrial Classification (SIC) Code <u>4911</u>
c.	Manufacturer of equipment <u>Detroit Diesel</u>
d.	Model number <u>125D8EJB</u> Serial number <u>2033796</u> *Equip. number <u>S2.015</u>
e.	Date equipment manufactured: <u>03/2005</u>
f.	Please check one: <input type="checkbox"/> Temporary (At the same location for less than 12 months) <input checked="" type="checkbox"/> Stationary (At the same location for more than 12 months)
g.	Please check if portable: <input type="checkbox"/> Portable (transportable or movable within the confines of the stationary source)
h.	UTM Coordinates <u>4,381,933</u> meters N; <u>284,324</u> meters E; Zone 11 (Please specify NAD 27 <input type="checkbox"/> or NAD 83 <input checked="" type="checkbox"/>)
i.	Basic equipment dimensions (feet): L _____ W _____ H _____

* The equipment number is the facility's own numbering system for this piece of equipment.

Section 2 - Design Rate/Operating Parameters

a.	Maximum design horsepower OUTPUT (horsepower per hour) <u>170</u> (Please provide for internal combustion engines only)
b.	Maximum design heat INPUT (million Btu per hour) <u>N/A</u> (Please provide for all combustion units except for internal combustion engines)
c.	*Requested operating time: time of day _____ to _____ Hours per day <u>N/A</u> Days per year <u>N/A</u> Hours per year <u>Emergency Unit</u>

*Note: Please complete if other than the maximum hours of operation (24 hours per day, 8760 hours per year), are being requested. The permit will be limited to these values.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 3 - Fuel Usage

Type of Fuel	Amount Used Per Hour	Heat Content (specify in Btu's)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)
Oil- Specify Type(s)					
Diesel	11 gallons	137,000	NA	0.05%	NA
	gallons	NA	NA	NA	NA
Gasoline	none gallons	NA	NA	NA	NA
Propane	none gallons	NA	NA	NA	NA
Natural Gas	none cubic feet	NA	NA	NA	NA
*Waste Oil	none gallons	NA	NA	NA	NA
Other	none	NA	NA	NA	NA

Type of Fuel	Amount Used Per Hour (tons)	Heat Content (specify in Btus)	Ash Content (% by weight)	Sulfur Content (% by weight)	Trace Elements (% by weight)	Percent moisture	Percent volatile matter	Percent fixed carbon
Coal - Specify Type(s)								
none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If more than one type of fuel is combusted, under this operating scenario, please specify primary fuel and percentage on a maximum hourly and annual basis. If fuel blending is the primary fuel, identify percentages of each fuel blended. Attach additional information to this form if necessary.

*Firing of waste oil will require multi-metals test to ensure fuel is non-hazardous.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 4 - Pollution Control Equipment/Exhaust Stack Parameters. This section must be completed.

-Complete for emissions exhausting through a stack, chimney or vent: (baghouse, wet scrubber, cyclone, low NO_x burner, no control, etc.)

	Control #1	Control #2
Type of Control: (Specify "uncontrolled" if no pollution control device is installed)	NA	
Pollutant(s) Controlled	NA	
Manufacturer	NA	
Manufacturer's Guarantee (see Note 1)	NA	
Stack height (feet from ground level)	29.5	
Stack inside diameter (feet)	0.5	
Temperature (°F) at design capacity	900	
Stack exit velocity (feet per second)	122	
Gas volume flow rate: actual cubic feet per minute	1,440	
Gas volume flow rate: dry standard cubic feet per minute	424	
Unusual stack charac- teristics (e.g., raincap, horizontal discharge)	Raincap	

Note 1: Manufacturer's guarantee of control efficiency must be attached to this form if the control efficiency claimed is greater than the control efficiency ratings provided in the Bureau of Air Pollution Control's Emissions Control Technology - Control Efficiency Ratings provided in Attachment 4.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 5 - Identify and Describe Compliance Monitoring Devices or Activities (attach additional pages if necessary)

(Eg., Emissions from this unit will be monitored by CEMS for NO_x and CO. Emissions for all other pollutants will be monitored periodically by annual stack test, daily opacity readings using Method 9 with weekly O&M baghouse checks and daily ΔP readings.)

Comply with the applicable emission limitations and operating limitations no later than May 3, 2013. [40 CFR § 63.6595(a)(1)]

Keep records of the maintenance conducted on the emergency diesel engine. [40 CFR § 60.6655 (e)]

Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. [40 CFR § 63.6655(f)]

Section 6 - Identify and Describe Work Practice Standards, Etc. (attach additional pages if necessary)

(Eg., 1. At all times, including startup, shutdown and malfunction, the emission unit will be operated in a manner consistent with good air pollution control practices.

2. Water spray nozzles will be checked to verify proper operation and adequate water flow is present.)

Beginning May 3, 2013: [40 CFR § 63.6595(a)(1)]

Comply with applicable operating limits and maintain equipment in a manner consistent with good air pollution control practices for minimizing emissions. [40 CFR § 63.6605(a) and (b)]

Operate and maintain the engine according to the manufacturer's emission-related written instructions. [40 CFR § 63.6625(e)]

Install a non-resettable hour meter if not already installed. [40 CFR § 63.6625(f)]

Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR § 63.6625(h)]

Change oil and filter every 500 hours of operation or annually, whichever comes first.¹ Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR § 63.6595(a)(1) and Table 2d.4]

Maintenance checks and readiness testing is limited to 100 hours per year. Operation in non-emergency is limited to 50 hours per year, but those 50 hours are counted toward the 100 hours per year provided for maintenance and testing. [40 CFR § 63.6640(f)(1)]

¹ Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of 40 CFR 60 Subpart ZZZZ.

**COMBUSTION EQUIPMENT
APPLICATION FORM
CONTINUED**

Section 7 - Requested Emission Limits

Pollutant	Potential to Emit (pounds/hour*)	Potential to Emit (tons/year)	Calculation (including reference) on Which Emissions Information is Based (attach supporting information if necessary)
Total Particulate Matter (PM)	0.37	0.094	See Appendix 6.
Particulates as PM ₁₀	0.37	0.094	See Appendix 6.
Sulfur Dioxide	0.07	0.017	See Appendix 6.
Carbon Monoxide	1.14	0.284	See Appendix 6.
Oxides of Nitrogen	5.27	1.318	See Appendix 6.
Volatile Organic Compounds	0.43	0.107	See Appendix 6.
Lead	-	-	
Hydrogen Sulfide	-	-	
Hazardous Air Pollutants (Specify Each Pollutant ¹)			
Total HAPs	9.7E-3	0.002	See Appendix 6.
Other Regulated Pollutants (Specify ²)			
N/A			

*Note: Alternative emissions limitations (e.g., lb/MMBtu, ppm, grains/dscf) may be requested by the applicant. If alternative emissions limitations are requested, please clearly describe the units in column 2 of Section 5 above.

¹A list of Hazardous Air Pollutants is contained in Attachment 4.

²Other Regulated Pollutants include any Class I or Class II substance subject to a standard adopted pursuant to 42 U.S.C. SS 7671-8671q, inclusive

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE
REQUIREMENTS

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status												
<p>AC 445B.2203 (<i>State Only Requirement</i>) Emissions of Particulate Matter - Fuel Burning Equipment 1. Source may not cause or permit the emission of PM₁₀ resulting from the combustion of fuel in fuel-burning equipment in excess of the quantity set forth in the following formulas: a. For input of heat equal to or greater than 4 million Btu's per hour, but less than or equal to 10 million Btu's per hour, the allowable emission is 0.6 of a pound per million Btu's of input of heat. b. For input of heat greater than 10 million Btu's per hour, but less than 4,000 million Btu's per hour, the allowable emissions must be calculated using the following equation: $Y = 1.02X^{-0.231}$ c. For input of heat equal to or greater than 4,000 million Btu's per hour, the emission must be calculated using the following equation: $Y = 17.0X^{-0.568}$ 2. For the purposes of paragraphs b and c of subsection 1: a. "X" means the operating rate in million Btu's per hour. b. "Y" means the allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A												
<p>SIP 445.731(1)(a) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment Source shall not cause, suffer, allow or permit the emission of particulate matter resulting from the combustion of fuel in excess of the quantity set forth in the following table:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Heat input in millions of</th> <th style="text-align: left;">Maximum allowable emission of particulate matter in pounds per hour per million</th> </tr> </thead> <tbody> <tr> <td>Up to and including 10</td> <td>0.600</td> </tr> <tr> <td>100</td> <td>0.352</td> </tr> <tr> <td>1,000</td> <td>0.206</td> </tr> <tr> <td>10,000</td> <td>0.091</td> </tr> <tr> <td>100,000</td> <td>0.025</td> </tr> </tbody> </table>	Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million	Up to and including 10	0.600	100	0.352	1,000	0.206	10,000	0.091	100,000	0.025	N/A	N/A	N/A
Heat input in millions of	Maximum allowable emission of particulate matter in pounds per hour per million														
Up to and including 10	0.600														
100	0.352														
1,000	0.206														
10,000	0.091														
100,000	0.025														
<p>SIP 445.731(1)(b) - (<i>Federally Enforceable SIP Requirement</i>) Particulate Matter - Fuel Burning Equipment For heat inputs greater than 10 but less than 4,000 million Btu's per hour, the allowable emissions shall be calculated by using the following equation: $Y = 1.02X^{-0.231}$ Where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A												

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.731(1)(c) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment For heat inputs equal to or greater than 4,000 million Btu's per hour, the emissions shall be calculated by using the following equation: $Y = 17.0X^{-0.568}$ where "X" = maximum equipment capacity rate in million Btu's per hour. "Y" = allowable rate of emission in pounds per million Btu's.</p>	N/A	N/A	N/A
<p>SIP 445.731(3) - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Fuel Burning Equipment Air conditioning equipment or fuel burning equipment having a rating of less than one million kilogram-calories (4 million Btu's) per hour shall be exempted from provisions of this section.</p>	N/A	N/A	N/A
<p>NAC 445B.22033, 445B.22027 <i>(State Only Requirement)</i> Emissions of Particulate Matter - Sources Not Otherwise Limited 1. Owners or operators of stationary sources not otherwise included in NAC 445B.22027 to 445B.22037, inclusive, shall not cause or permit PM₁₀ to be discharged from any emission unit into the atmosphere in excess of the allowable emission determined by the use of the formula contained in subsection 2 or 3. 2. When the maximum allowable throughput is less than 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 4.10P^{0.67}$ 3. When the maximum allowable throughput equals or exceeds 30 tons per hour, the maximum allowable weight discharge per hour must be determined by using the following equation: $E = 55P^{0.11} - 40$ 4. For the purposes of subsections 2 and 3: (a) "E" means the maximum rate of emission in pounds per hour. (b) "P" means the maximum allowable throughput in tons per hour.</p>	N/A	N/A	N/A
<p>SIP 445.732 - <i>(Federally Enforceable SIP Requirement)</i> Particulate Matter - Industrial Sources Sources not otherwise included in these regulations (SIP) shall not cause, suffer, allow, or permit particulate matter to be discharged from any single source into the atmosphere in excess of the allowable emission shown in the following table. When the process weight falls between two values in the table, the maximum weight discharged per hour shall be determined by the use of the formulas contained in this section. SIP 445.732(2) - When the process weight rate is less than 30,000 kilograms (60,000 pounds) per hour, the maximum allowable weight discharged per hour will be determined by using the following equation: $E = 0.0193P^{0.67} (4.10P^{0.67})$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP 445.732 (3) - <i>(Federally Enforceable SIP Requirement)</i> <u>Particulate Matter - Industrial Sources</u> When the process weight rate equals or exceeds 30,000 kilograms (60,000 pounds) per hour the maximum allowable discharge per hour will be determined by using the following equation: $E = 11.78P^{0.11} - 18.14 (55P^{0.11} - 40)$ "E" = Maximum rate of emission in kilograms (pounds) per hour. "P" = Process weight rate in kilograms (tons) per hour.</p>	N/A	N/A	N/A
<p>NAC 445B.2204, 445B.22043, 445B.22047 <i>(State Only Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 1. Source may not cause or permit the emission of compounds of sulfur caused by the combustion of fuel in fuel-burning equipment in excess of the quantity calculated by the use of the formula in subsection 2 or 3. 2. Where an emission unit has a total input of heat of less than 250 million Btu's per hour the allowable emission must be calculated by the use of the following equation: $Y = 0.7X$ 3. Where an emission unit has a total input of heat equal to or greater than 250 million Btu's per hour, the allowable emission of sulfur must be calculated by the use of the following equation: Liquid fuel, $Y = 0.4X$ Solid Fuel, $Y = 0.6X$ Combination, $Y = (L(0.4) - S(0.6))/(L + S)$ 4. For the purposes of subsections 2 and 3: (a) "X" means the operating input of heat in millions of Btu's per hour. (b) "Y" means the allowable rate of emission of sulfur in pounds per hour. 5. For the purposes of subsection 3: (a) "L" means the percentage of total input of heat derived from liquid fuel. (b) "S" means the percentage of total heat derived from solid fuel.</p>	<p>N/A (It is presumed that units under 4 MMBtu/hr are not subject to this requirement.)</p>	N/A	N/A
<p>SIP Article 8.1 and 8.2 <i>(Federally Enforceable SIP Requirement)</i> <u>Sulfur Emissions - Fuel Burning Equipment</u> 8.2.1.1 - Where a source located on contiguous property has a total heat input of less than 63 million kg-cal (250 million Btu's) per hour the following allowable emission shall be calculated by the use of the following equation: $Y = 1.26X (Y = 0.7X)$ "X" = Operating heat input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emission in kg (pounds) per hour.</p>	<p>N/A (It is presumed that units under 4 MMBtu/hr are not subject to this requirement.)</p>	N/A	N/A

SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status			
<p>SIP Article 8.2.1.2 - Where a source located on contiguous property has a total heat input of equal to or greater than 63 million kg-cal (250 million Btu's) per hour, the allowable sulfur emission shall be calculated by the use of the following equations:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)</td> <td style="text-align: center; width: 33%;"><u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)</td> <td style="text-align: center; width: 33%;"><u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$</td> </tr> </table> <p>"X" = Operating input in millions of kg-cal (Btu's) per hour. "Y" = Allowable rate of sulfur emissions in kg (pounds) per hour. "L" = Percentage of total heat input derived from liquid fuel. "S" = Percentage of total heat input derived from solid fuel.</p> <p>8.2.2 - For purposes of Article 8, "sulfur emission" means the sulfur portion of the sulfur compounds emitted.</p>	<u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)	<u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$	N/A	N/A	N/A
<u>Liquid Fuel</u> Y = 0.7X (Y = 0.4X)	<u>Solid Fuels</u> Y = 1.1X (Y = 0.6X)	<u>Combination Fuel</u> $Y = \frac{L(0.7) + S(1.1)}{L + S}$				
<p>NAC 445B.2204, 445B.22043, 445B.2205 (<u>State Only Requirement</u>) <u>Other Processes Which Emit Sulfur</u> 1. Source may not cause or permit the emission of sulfur compounds where the sulfur originates in the material being processed, excluding hydrogen sulfide and sulfur from all solid, liquid, or gaseous fuel, in excess of the quantity determined by the following equation: $E = 0.292P^{0.904}$ 2. For the purposes of subsection 1: (a) "E" means the allowable sulfur emission in pounds per hour. (b) "P" means the total feed sulfur, excluding hydrogen sulfide, in pounds per hour.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(1) - Source shall not cause, suffer, allow or permit the emission of sulfur compounds where the sulfur originates in the material being processed (excluding sulfur from solid, liquid, or gaseous fuel), in excess of the quantity determined by the following equation: $E = 0.271P^{0.904} (0.292P^{0.904})$ When •E• is equal to or greater than 5 kilograms (10 pounds) per hour. Where: "E" is the allowable sulfur emission in kilograms (pounds) per hour, "P" is the total feed sulfur in kilograms (pounds) per hour. SIP 445.746(1) - When "E" is less than 5 kilograms (10 pounds) per hour, the gas stream concentration shall not exceed 1,000 ppm by volume.</p>	N/A	N/A	N/A			
<p>SIP 445.746 - (<u>Federally Enforceable SIP Requirement</u>) <u>Other Sulfur Emitting Processes</u> SIP 445.746(3) - When sulfur emissions are due to sulfur contributions from both the fuel and the material being processed, the allowable emissions shall be the sum of those allowed by the provisions of this section.</p>	N/A	N/A	N/A			

**SECTION 8
EMISSION UNIT SPECIFIC
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22017 (<i>State Only Requirement</i>) <u>Maximum Opacity of Emissions</u></p> <p>1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods: (a) If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A. of 40 C.F.R. Part 60. (b) If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §60.13(h).</p> <p>2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.</p>	Applicable	See Appendix 1, Section 5 and 6	In Compliance
<p>SIP 445.721 (<i>Federally Enforceable SIP Requirement</i>) <u>Visible Emissions from Stationary Sources</u></p> <p>These regulations (SIP) shall not apply if the presence of uncombined water is the only reason for the failure of an emission to comply with these regulations. The burden of proof to establish the application of this exemption shall be upon the person seeking to come within this exemption.</p>	Applicable	See Appendix 1, Section 5 and 6	In Compliance
Acid Rain Program – 40 CFR Parts 72 through 78	N/A ¹	N/A	N/A
NESHAP – 40 CFR Parts 61 and 63, Subpart ZZZZ	Applicable	See Appendix 1, Section 5 and 6	In Compliance
NSPS– 40 CFR Part 60, Subpart IIII	N/A ²	N/A	N/A

¹The generator is not a utility unit because it does not produce electricity for sale. [§72.2 (Utility Unit)]

²The generator was manufactured before April 1, 2006. [40 CFR §60.4200(a)(2)(i)]

**SURFACE AREA DISTURBANCE
APPLICATION FORM
CLASS I OPERATING PERMIT**

1. Project Name Western 102 Power Plant

2. Surface Area Disturbance Location:

Overall disturbance location description:

Township 29N; Range 22E; Section 33 & 34;
Township _____; Range _____; Section _____;
Township _____; Range _____; Section _____;

3. Indicate the total number of acres to be disturbed for the project 27.8 Acres

4. Nevada Administrative Code 445B.22037 requires fugitive dust to be controlled (regardless of the size or amount of acreage disturbed), and requires an ongoing program, using best practical methods, to prevent particulate matter from becoming airborne. All activities which have the potential to adversely affect the local air quality must implement all appropriate measures to limit controllable emissions. Appropriate measures for dust control may consist of a phased approach to acreage disturbance rather than disturbing the entire area all at once; using wet suppression through such application methods as water trucks or water sprays systems to control wind blown dust; the application of soil binding agents or chemical surfactant to roadways and areas of disturbed soil; as well as the use of wind-break or wind-limiting fencing designed to limit wind erosion of soils.

Barrick will use best practical methods as appropriate to prevent particulate matter from becoming airborne.

5. Please include a dust control plan in Appendix 8 if the total number of acres to be disturbed in number 3 above equals or exceeds 20 acres. The dust control measures discussed above should be considered in the preparation of the required dust control plan. Two documents entitled "SAD Dust Control Plan Preparation Guidelines" and "SAD Fugitive Dust Control Plan" can be downloaded at www.ndep.nv.gov/bapc under Downloads. The acceptance of the dust control plan by the Bureau of Air Pollution Control does not limit the permit holder's need to control fugitive dust from the disturbance and its related activities, nor from putting into effect an ongoing program for using the best practical methods of dust control.

A dust control plan is included in Appendix 8.

Appendix 2

INSIGNIFICANT ACTIVITY INFORMATION FORM

Instructions

Attachment 1 contains the Approved List of Insignificant Activities. Attachment 3 contains the List of Trivial Activities. Trivial activities are exempted from consideration. **PLEASE RESPOND ON THE INSIGNIFICANT EMISSION UNITS INFORMATION FORM TO SECTIONS 1 THROUGH 4, FOR EACH INSIGNIFICANT EMISSION UNIT** [NAC 445B.295.8].

- Section 1. List all insignificant activities that are exempt pursuant to NAC 445B.288.2(a) through (h), and list the appropriate section that provides for the exemption. Provide information sufficient to show that the exemption applies (a copy of NAC 445B.288.2 is provided in Attachment 2).
- Section 2. List all insignificant activities that are exempted because they are on the list approved and maintained by the Director pursuant to NAC 445B.288.4. Provide information sufficient to show that the exemption applies.
- Section 3. List all proposed insignificant activities that are not already contained in the list in Attachment 1. Provide sufficient description of activities, and all emission calculations and references. The list of proposed insignificant activities must also be submitted, under separate cover, to the Director for his review and approval.
- Section 4. Calculate the maximum uncontrolled emissions for insignificant activities listed under Sections 1 through 3. Emissions calculations must be based on the maximum design throughput, maximum design production rate, maximum design heat input rate value, no controls, and 8760 hours per year of operation, unless otherwise indicated in NAC 445B.288.2 or on the list of approved insignificant activities provided in Attachment 1.

Section 1 - List All Emission Units that are Insignificant Activities Pursuant to NAC 445B.288.2(a) through (h) (see Attachment 2 for regulation).

Emission Unit	Exemption Regulation (Example - NAC 445B.288.2(b))	Reason Exemption Applies
N/A – There are no insignificant activities associated with this category.		

Section 2 - List All Emission Units Proposed as Insignificant Activities Pursuant to List Approved by the Director (see Attachment 1 - List of Approved Insignificant Activities)

Emission Unit	Reason Exemption Applies
N/A – There are no insignificant activities associated with this category.	

Section 3 - List All Emission Units Proposed as Insignificant Activities and Not Otherwise Listed in Section 1 or Section 2 (NAC 445B.288.4). Proposed insignificant activities from this Section must be submitted, under separate cover, to the Director for his approval. The submittal must include a sufficient description of the emission unit(s), all emissions calculations, and references.

Emission Unit
N/A – There are no insignificant activities associated with this category.

Section 4 -Emissions Calculations - Insignificant Emission Units/Activities

Emissions calculations for each insignificant activity listed in Sections 1 through 3 above must be provided and included in Appendix 4. Emissions calculations must be based on the maximum design throughput, maximum design production rate or maximum design heat input rate value of the emission unit or activity. No consideration for emissions reduction from pollution controls or limits on the hours of operation or other operational constraints may be allowed unless otherwise approved by the Director or as indicated in NAC 445B.288.3 or on the list provided in Attachment 1.

N/A

Appendix 3

FACILITY-WIDE APPLICABLE REQUIREMENTS

Instructions

Complete Table 1 provided in Appendix 3. Table 1 contains the general applicable requirements for the facility. In addition provide the following:

1. List, describe and cite all specific applicable requirements as defined in NAC 445B.019 (e.g., SIP, NAC, NSPS, NESHAPS, 112(r), acid rain, stratospheric ozone, etc.). [NAC 445B.3363.1(g)]
2. Explain any proposed exemption from any specific applicable requirement. [NAC 445B.295.1(f)]
3. Describe methods for determining compliance with each specific applicable requirement. [NAC 445B.295.2(g)]

TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>Nevada Revised Statute (NRS) 445B.470 (<i>State Only Requirement</i>) <u>Prohibited Acts</u> Source shall not knowingly:</p> <ol style="list-style-type: none"> 1. Violate any applicable provision, the terms or conditions of any permit or any provision for the filing of information; 2. Fail to pay any fee; 3. Falsify any material statement, representation or certification in any notice or report; or 4. Render inaccurate any monitoring device or method, required pursuant to the provisions of NRS 445B.100 to 445B.450, inclusive, or 445B.470 to 445B.640, inclusive, or any regulation adopted pursuant to those provisions. 	Applicable	N/A	In Compliance.
<p>NAC 445B.22013 (<i>State Only Requirement</i>) <u>Prohibited Discharge</u> Source shall not cause or permit the discharge into the atmosphere from any stationary source of any hazardous air pollutant or toxic regulated air pollutant that threatens the health and safety of the general public, as determined by the director.</p>	Applicable	N/A	In Compliance.
<p>NAC 445B.225 (<i>State Only Requirement</i>) <u>Prohibited Conduct: Concealment of Emissions</u> Source shall not install, construct, or use any device which conceals any emission without reducing the total release of regulated air pollutants to the atmosphere.</p>	Applicable	N/A	In Compliance.
<p>State Implementation Plan (SIP) Article 2.2 (<i>Federally Enforceable State Implementation Plan (SIP) Requirement</i>) <u>Circumvention</u> 2.2.1 - Except for the sole purpose of reducing the odor of an emission, Source shall not install, construct, or use any device which conceals any emission without resulting in a reduction in the total release of air contaminants to the atmosphere.</p>	Applicable	N/A	In Compliance.

TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.326.1 (445.7133.1) <u>Federally Enforceable Part 70 Program</u> <u>Assertion of Emergency as Affirmative Defense to Action for Noncompliance</u> Source may assert an affirmative defense to an action brought for noncompliance with a technology-based emission limitation contained in the Operating Permit if the holder of the Operating Permit demonstrates through signed, contemporaneous operating logs or other relevant evidence that:</p> <ul style="list-style-type: none"> a. An emergency occurred as defined in 445B.056 and the holder of the Operating Permit can identify the cause of the emergency; b. The facility was being properly operated at the time of the emergency; c. During the emergency, the holder of the Operating Permit took all reasonable steps to minimize excess emissions; and d. The holder of the Operating Permit submitted notice of the emergency to the director within 2 working days after the emergency. The notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken to restore the normal operation of the facility. 	Applicable	N/A	In Compliance.
<p>NAC 445B.315.2.h (445.7112.2.h) <u>Federally Enforceable Part 70 Program</u> Source shall provide the Bureau of Air Quality, within a reasonable time, with any information that the Bureau of Air Quality requests in writing to determine whether cause exists for modifying, revoking and reissuing, reopening and revising or terminating this Operating Permit or to determine compliance with the conditions of this Operating Permit.</p>	Applicable	N/A	In Compliance.
<p>NAC 445B.315.i (445.7145, 445.7112.2.i) <u>Federally Enforceable Part 70 Program</u> Source shall pay fees to the Bureau of Air Quality in accordance with the provisions set forth in NAC 445B.327 and 445B.331.</p>	Applicable	N/A	In Compliance.
<p>NAC 445B.315.2.k (445.7112.2.k) <u>Federally Enforceable Part 70 Program</u> A responsible official of Source shall certify that, based on information and belief formed after reasonable inquiry, the statements made in any document required to be submitted by any condition of an Operating Permit are true, accurate and complete.</p>	Applicable	N/A	In Compliance.
<p>40 CFR 52.21(r)(4) (<u>Federally Enforceable PSD Program</u>) At such time that Source becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of 40 CFR Part 52.21 shall apply to the source or modification as though construction had not yet commenced on the source or modification. •</p>	Applicable	N/A	In Compliance.

TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>(NAC 445B.252) <i>(State Only Requirement)</i> <u>Testing and Sampling</u></p> <p>1. To determine compliance with NAC 445B.001 (445.430) to 445B.395 (445.846), inclusive, before the approval or the continuance of an Operating Permit or similar class of permits, the director may either conduct or order the owner of any stationary source to conduct or have conducted such testing and sampling as the director determines necessary. Testing and sampling or either of them must be conducted and the results submitted to the director within 60 days after achieving the maximum rate of production at which the affected facility will be operated, but not later than 180 days after initial startup of the facility and at such times as may be required by the director.</p> <p>2. Tests of performance must be conducted and data reduced in accordance with the methods and procedures of the test contained in each applicable subsection of this section unless the director:</p> <ol style="list-style-type: none"> a. Specifies or approves, in specific cases, the use of a method of reference with minor changes in methodology; b. Approves the use of an equivalent method; c. Approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific stationary source is in compliance; or d. Waives the requirement for tests of performance because the owner or operator of a stationary source has demonstrated by other means to the director's satisfaction that the affected facility is in compliance with the standard. <p>3. Tests of performance must be conducted under such conditions as the director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown, and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard.</p> <p>4. The owner or operator of an affected facility shall give notice to the director 30 days before the test of performance to allow the director to have an observer present. A written testing procedure for the test of performance must be submitted to the director at least 30 days before the test of performance to allow the director to review the proposed testing procedures.</p> <p>5. Each test of performance must consist of at least three separate runs using the applicable method for that test. Each run must be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the runs apply. In the event of forced shutdown, failure of an irreplaceable portion of the sampling train, extreme meteorological conditions, or other circumstances with less than three valid samples being obtained, compliance may be determined using the arithmetic mean of the results of the other two runs upon the director's approval.</p> <p>6. All testing and sampling will be performed in accordance with recognized methods as specified by the director.</p> <p>7. The cost of all testing and sampling and the cost of all sampling holes, scaffolding, electric power, and other pertinent allied facilities as may be required and specified in writing by the director must be provided and paid for by the owner of the stationary source.</p> <p>8. All information and analytical results of testing and sampling must be certified as to their truth and accuracy and as to their compliance with all provisions of these regulations, and copies of these results must be provided to the director no later than 60 days after the testing or sampling, or both.</p>	<p>Applicable</p>	<p>Stack Testing as Required by Permit Conditions</p>	<p>In Compliance.</p>

TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP Article 2.6 (<i>Federally Enforceable SIP Requirement</i>) <u>Testing and Sampling</u></p> <p>2.6.1 - To determine compliance with these regulations prior to approval of or prior to the continuance of an operating permit or similar class of permits, the Director may either conduct or order the owner of any source to conduct or have conducted such testing and sampling as the Director determines necessary.</p> <p>2.6.2 - Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Director.</p> <p>2.6.3 - Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, or (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Director's satisfaction that the affected facility is in compliance with the standard.</p> <p>2.6.4 - Performance tests shall be conducted under such conditions as the Director shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.</p> <p>2.6.5 - The owner or operator of an affected facility shall provide the Director 30 days prior notice of the performance test to afford the Director the opportunity to have an observer present.</p> <p>2.6.6 - Each performance test shall consist of at least two separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the runs shall apply. In the event of forced shutdown, failure of an irreplaceable portion of the sampling train, extreme meteorological conditions, or other circumstances with less than two valid samples being obtained, an additional performance test(s) must be conducted.</p> <p>2.6.7 - All testing and sampling will be performed in accordance with recognized methods as specified by the Director.</p> <p>2.6.8 - The cost of all testing and sampling and the cost of all sampling holes, scaffolding, electric power, and other pertinent allied facilities as may be required and specified in writing by the Director shall be provided and paid for by the owner of the source.</p> <p>2.6.9 - All information and analytical results of testing and sampling shall be certified as to their truth and accuracy and as to their compliance with all provisions of these (SIP) regulations and copies of these results shall be provided to both the owner and Director.</p>	<p>Applicable</p>	<p>Stack Testing as Required by Permit Conditions</p>	<p>In Compliance.</p>

TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22067 (<i>State Only Requirement</i>) <u>Open Burning</u> The open burning of any combustible refuse, waste, garbage, oil, or for any salvage operations, except as specifically exempted, is prohibited. Specific exemptions from open burning are described in NAC 445B.22067.2.</p>	Applicable	N/A	In Compliance.
<p>SIP Article 5.1 (<i>Federally Enforceable SIP Requirement</i>) <u>Open Burning</u> The open burning of any combustible refuse, waste, garbage, oil fires, or for any salvage operations, except as specifically exempted, is prohibited. Specific exemptions from open burning are described in SIP Articles 5.2, 5.2.1, 5.2.2, 5.2.3, 5.2.4 and 5.2.5.</p>	Applicable	N/A	In Compliance.
<p>NAC 445B.22087 (<i>State Only Requirement</i>) <u>Odors</u> Source may not discharge or cause to be discharged, from any stationary source, any material or regulated air pollutant which is or tends to be offensive to the senses, injurious or detrimental to health and safety, or which in any way interferes with or prevents comfortable enjoyment of life or property.</p>	Applicable	N/A	In Compliance.
<p>SIP Article 10 (<i>Federally Enforceable SIP Requirement</i>) <u>Odors</u> 10.1.1 - Source shall not discharge, or cause to be discharged from any source any material or air contaminant which is, or tends to be, offensive to the senses, injurious or detrimental to health and safety, or which in any way interferes with or prevents the comfortable enjoyment of life or property.</p>	Applicable	N/A	In Compliance.

TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22093 (<i>State Only Requirement</i>) <u>Organic Solvents and Other Volatile Compounds</u></p> <ol style="list-style-type: none"> 1. Solvents or other volatile compounds such as paints, acids, alkalis, pesticides, fertilizers, and manure must be processed, stored, used, and transported in such a manner and by such means as to minimize the tendency to evaporate, leak, escape, or be otherwise discharged into the ambient air causing or contributing to air pollution. If methods of control are available and feasible effectively to reduce the contribution to air pollution from evaporation, leakage, or discharge, as determined by the director, the installation and use of such methods, devices, or equipment for control is mandatory. 2. Source may not place, store, or hold in any new reservoir, stationary tank or other container with a capacity equal to or greater than 40,000 gallons any gasoline, petroleum distillate, or other volatile organic compound having a vapor pressure of 1.5 lb/square inch absolute or greater under actual storage conditions unless the tank, reservoir, or other container is a pressure tank maintaining working pressure sufficient at all times to prevent loss of vapor or gas to the atmosphere or is equipped with one of the following devices properly installed, in good working order, and in operation: <ol style="list-style-type: none"> a. A floating roof which consists of a pontoon type or double-deck roof which rests on the surface of the liquid contents and is equipped with a seal to close the space between the roof eave and tank wall or a vapor balloon or a vapor dome designed in accordance with accepted standards of the petroleum industry. This control equipment is not permitted if the gasoline or petroleum distillate has a vapor pressure of 11 lb/square inch absolute or greater under actual conditions. All gauging and sampling devices for tanks must be gas tight except when gauging or sampling is taking place. b. Other equipment proven to be of equal efficiency for preventing discharge of gases and vapors to the atmosphere. 3. Any tank for the storage of any other petroleum or volatile organic compound which is constructed or extensively remodeled on or after November 7, 1975, must be equipped with a submerged fill pipe or the equivalent, as approved by the director, for control of emissions. 4. All facilities for dock loading of products consisting of petroleum or other volatile organic compounds having a vapor pressure of 1.5 lb/square inch absolute or greater at loading pressure must have facilities for submerged filling by submerged fill pipe or an acceptable equivalent, for the control of emissions. 	Applicable	N/A	In Compliance.
<p>SIP Article 9 (<i>Federally Enforceable SIP Requirement</i>) <u>Organic Solvent, other Volatile Compounds</u></p> <p>9.1 - Materials such as, but not limited to, solvents or other volatile compounds such as paints, acids, alkalis, pesticides, fertilizers, and manure shall be processed, stored, used, and transported in such a manner and by such means as to minimize the tendency to evaporate, leak, escape, or be otherwise discharged into the ambient air causing or contributing to air pollution; and where control methods are available and feasible effectively to reduce the contribution to air pollution from evaporation, leakage, or discharge, as determined by the Director, the installation and use of such control methods, devices, or equipment shall be mandatory.</p>	Applicable	N/A	In Compliance.

TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>SIP Article 9.2 (<i>Federally Enforceable SIP Requirement</i>) <u>Storage Containers Equal to or Greater than 150 kiloliters (40,000 Gallons)</u> 9.2.1 - Source shall not place, store, or hold in any new reservoir, stationary tank or other container any gasoline, petroleum distillate, or other volatile organic compound having a vapor pressure of 1,055 kilograms per square meter (1.5 lb/square inch absolute) or greater (under actual storage conditions) unless such tank, reservoir, or other container is a pressure tank maintaining working pressure sufficient at all times to prevent vapor or gas loss to the atmosphere or is equipped with one of the following vapor loss control devices (see 9.2.1, 9.2.1.2) properly installed, in good working order, and in operation.</p> <p>9.2.1.1 - A floating roof which consists of a pontoon type or double-deck roof which rests on the surface of the liquid contents and is equipped with a closure seal to close the space between the roof eave and tank wall; or a vapor balloon or a vapor dome, designed in accordance with accepted standards of the petroleum industry. This control equipment shall not be permitted if the gasoline or petroleum distillate has a vapor pressure of 7,734 kilograms (11 lb/square inch absolute) or greater under actual conditions. All tank gauging and sampling devices shall be gas tight except when gauging or sampling is taking place.</p> <p>9.2.1.2 - Other equipment proven to be of equal efficiency for preventing discharge of gases and vapors to the atmosphere.</p>	N/A	N/A	N/A
<p>SIP Article 9.2 (<i>Federally Enforceable SIP Requirement</i>) <u>Storage Containers Equal to or Greater than 150 kiloliters (40,000 Gallons)</u> (Continued) 9.2.2 - Any other petroleum or volatile organic compound storage tank which is constructed or extensively remodeled, on or after the effective date of these regulations, shall be equipped with submerged fill pipe or equivalent, as approved by the Director for control of emissions.</p>	N/A	N/A	N/A
<p>SIP Article 9.2 (<i>Federally Enforceable SIP Requirement</i>) <u>Storage Containers Equal to or Greater than 150 kiloliters (40,000 Gallons)</u> (Continued) 9.2.3 - All facilities for dock loading of petroleum or volatile organic compound products, having a vapor pressure of 1,055 kilograms per square meter (1.5 pounds per square inch absolute) or greater at loading pressure, shall provide for submerged filling by a submerged fill pipe or acceptable equivalent for the control of emissions</p>	N/A	N/A	N/A

TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>NAC 445B.22037 (<i>State Only Requirement</i>) <u>Fugitive Dust</u></p> <p>1. Source may not cause or permit the handling, transporting, or storing of any material in a manner which allows or may allow controllable particulate matter to become airborne.</p> <p>2. Except as otherwise provided in subsection 4, Source may not cause or permit the construction, repair, demolition, or use of unpaved or untreated areas without first putting into effect an ongoing program using the best practical methods to prevent particulate matter from becoming airborne. As used in this subsection, •best practical methods• includes, but is not limited to, paving, chemical stabilization, watering, phased construction, and revegetation.</p> <p>3. Except as provided in subsection 4, Source may not disturb or cover 5 acres or more of land or its topsoil until he has obtained an Operating Permit for surface area disturbance to clear, excavate, or level the land or to deposit any foreign material to fill or cover the land.</p> <p>4. The provisions of subsections 2 and 3 do not apply to:</p> <p style="margin-left: 20px;">a. Agricultural activities occurring on agricultural land; or</p> <p style="margin-left: 20px;">b. Surface disturbances authorized by a permit issued pursuant to NRS 519A.180 which occur on land which is not less than 5 acres or more than 20 acres.</p>	Applicable	N/A	In Compliance.
<p>SIP Article 7.3 (<i>Federally Enforceable SIP Requirement</i>) <u>Fugitive Dust</u></p> <p>7.3.1 - Source shall not cause or permit the handling, transporting, or storing of any material in a manner which allows, or may allow, controllable particulate matter to become airborne.</p> <p>7.3.2 - In areas designated by the Director, Source shall not cause or permit the construction, repair, or demolition work, or the use of unpaved or untreated areas without applying all such measures as may be required by the Director to prevent particulate matter from becoming airborne.</p> <p>7.3.3 - Source may not disturb or cover 8 hectares (20 acres) or more of land or its topsoil, except for agricultural land until Source obtains a registration certificate or operating permit for the purpose of clearing, excavating or leveling such land or any foreign material to fill or cover such land.</p>	Applicable	N/A	In Compliance.
<p>NAC 445B.227 (445.664) (<i>Federally Enforceable Part 70 Program</i>) <u>Facilities Operation</u></p> <p>Source may not:</p> <p>1. Operate a stationary source of air pollution unless the control equipment for air pollution which is required by applicable requirements or conditions of this Operating Permit is installed and operating.</p> <p>2. Disconnect, alter, modify or remove any of the control equipment for air pollution or modify any procedure required by an applicable requirement or condition of this Operating Permit.</p>	Applicable	N/A	In Compliance.

**TABLE 1
APPLICABLE REQUIREMENTS, TEST METHODS, AND COMPLIANCE STATUS**

Applicable Requirement Citation and Description	Explanation of A Proposed Exemption	Test Methods and/or Monitoring	Compliance Status
<p>The following provisions are applicable requirements of this Operating Permit:</p> <ol style="list-style-type: none"> 1. Source will comply with all applicable provisions of: <ol style="list-style-type: none"> a. 40 CFR Part 60.1 - 60.19 - Standards of Performance for New Stationary Sources - General Provisions; b. 40 CFR Part 61.01 - 61.19 - National Emission Standards for Hazardous Air Pollutants - General Provisions; c. 40 CFR Part 61.140 - 61.157 - National Emission Standards for Asbestos; d. 40 CFR Part 63.1 - 63.15 - National Emission Standards for Hazardous Air Pollutants for Source Categories - General Provisions; e. 40 CFR Part 70 - State Operating Permit Program. 	<p>Part 60, Sub A – NA Part 61, Sub A – NA¹ Part 63, Sub A – Applicable Part 70 – Applicable²</p>	<p align="center">N/A</p>	<p align="center">In Compliance.</p>
<p>Source is subject to 40 CFR Part 68 - Chemical Accident Prevention Provisions. Source shall submit a risk management plan (RMP) by June 21, 1999, or other dates specified in 40 CFR 68.10. Source shall certify compliance with these requirements as part of the annual compliance certification as required by 40 CFR Part 70.</p>	<p align="center">N/A³</p>	<p align="center">N/A</p>	<p align="center">N/A</p>
<p>Source will comply with all provisions of 40 CFR Part 82. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156. Equipment used during maintenance, service, repair, or disposal of appliances must meet the standards for recycling and recovery equipment in accordance with 40 CFR 82.158. Persons performing maintenance, service, repair or disposal of appliances must be certified by a certified technician pursuant to 40 CFR 82.161.</p>	<p align="center">N/A</p>	<p align="center">N/A</p>	<p align="center">N/A</p>
<p><u>Chemical Accident Prevention Provisions</u> Source shall:</p> <ol style="list-style-type: none"> 1. Submit a compliance schedule for meeting the requirements of 40 CFR Part 68.215 by the date provided in 40 CFR Part 68.10(a) or; 2. Submit as part of the compliance certification submitted under 40 CFR Part 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 CFR Part 68.215, including the registration and submission of the risk management plan. 	<p align="center">N/A</p>	<p align="center">N/A</p>	<p align="center">N/A</p>
<p>Source is not in compliance with NAC 445B.230 - •Plan for reduction of emissions. • In order to achieve compliance Source shall submit a plan for reducing or eliminating emissions associated with the stationary source in accordance with the episode stages of alert, warning, and emergency as contained in the applicable State Implementation Plan for the State of Nevada. The plan must be submitted on or before July 1, 1998.</p>	<p>Applicable. This plan has been submitted.</p>	<p align="center">N/A</p>	<p align="center">In Compliance.</p>

¹ The facility is not a major source of HAPs. See Appendix 5.

² The facility is, however, subject to the state of Nevada approved Title V operating permit program: such program approved pursuant to 40 CFR Part 70.

³ No regulated substances at the site will exceed the threshold quantity per this part. Either urea or aqueous ammonia (less than 20 percent ammonia) will be used in the SCR systems.

Appendix 4

STREAMLINING AND SHIELD ALLOWANCE

The incorporation of streamlining and a shield allowance is optional.

Use as a guideline the examples in this Appendix to identify and streamline multiple applicable requirements for an emission unit, if desired.

1. Provide a side-by-side comparison of all requirements included in the streamlining proposal that are currently applicable and effective for the specific emission unit.
2. Determine the most stringent emissions and/or performance standard and provide the documentation relied upon to make this determination.
3. Propose one set of permit terms and conditions (i.e. the streamlined requirements) to include the most stringent emissions limitations and/or standards.
4. Certify compliance with applicable requirements.

STREAMLINING AND SHIELD ALLOWANCE

1.1. Streamlining

Not applicable.

1.2. Permit Shield

Table 4.1: Specific Non-Applicable Requirements

Emissions Unit	Non-Applicable Requirement	Exemption
S2.001 to S2.014	40 CFR 64, Compliance Assurance Monitoring	40 CFR §64.3(b)(vi). Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO _x , CO, and formaldehyde emission limitations. See Control Monitoring Plan in Attachment 1.

Appendix 5

FACILITY-WIDE POTENTIAL TO EMIT TABLES

Provide the stationary source's total emissions by completing Table 1 and Table 2 of Appendix 5. (Note: Table 1 must include the insignificant activity emissions identified in Table 2.) [NAC 445B.295.8].

TABLE 1

**FACILITY-WIDE (STATIONARY SOURCE)
POTENTIAL TO EMIT
POUNDS/HOUR AND TONS/YEAR**

Pollutant	Potential to Emit (pounds/hour)	Potential to Emit (tons/year)
Total Particulate Matter (PM)	36.63	158.85
Particulates as PM ₁₀	36.63	158.85
Sulfur Dioxide	8.19	35.58
Carbon Monoxide	35.02	152.60
Oxides of Nitrogen	26.13	95.12
Volatile Organic Compounds	34.31	149.63
Lead		
Hazardous Air Pollutants (Specify Each Pollutant)		
Formaldehyde	2.10	<10
Total HAPs*	4.91	<25
Other Regulated Pollutants (Specify)		
NH ₃	18.20	79.66

*All other single HAP emissions are less than the formaldehyde pound-per-hour and ton-per-year rates.

Appendix 6

DETAILED EMISSIONS CALCULATIONS

Please Attach Emission Calculations

Instructions

1. Provide descriptions of all emissions, and provide emission rates, of any pollutants for which the source is major and all emissions of regulated air pollutants from all emission units. [NAC 445B.3363.1(a), NAC 445B.3363.1(b), NAC 445B.295.8]
2. Provide the emission rates of all regulated air pollutants that are subject to an emissions limitation pursuant to an applicable requirement. The emission rate must be described in pounds per hour and tons per year and in such terms as are necessary to establish compliance using the applicable standard reference test method. [NAC 445B.3363.1(d)]
3. Provide all supporting calculations and documentation of all emission factors for the emission rates specified in 1 and 2 above. This information shall be provided for each emission unit. (*Note: A listing of default emission control efficiency values is contained in Attachment 4.*) [NAC 445B.3363.1(f)]
4. Provide any other information required by any applicable requirement for each emission unit. [NAC 445B.3363.1(e)]
5. Provide all emissions of regulated air pollutants (in pounds per hour and tons per year) from **each insignificant activity** (see Section 4 of Appendix 2 to determine if these calculations are required), and calculations and supporting documentation. The emissions and supporting calculations should reflect all insignificant activities listed in Appendix 2. [NAC 445B.295.8]



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**EMISSION
CALCULATIONS**

PROJECT TITLE: Western 102 Power Project		BY: K. Lewis	
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SUBJECT: Wartsila Plant Emissions		DATE: February 4, 2011	

WARTSILA OPERATING DATA

Engine Model No.	20V34SG	Plant Gross Output	118,146 kW
Number of Engines	14		
Engine Rating	8,439 kW		
Fuel Consumption	77 MMBtu/hr	Altitude	1,330 ft, asl *
Running Hours	8,760 hr/yr		
Cold Startups for 14 units**	420		
Warm Startups for 14 units**	1,120		

* From the National Elevation Dataset, USGS Website.

**Average cold and warm startup values from the 2010 final Western 102 workbook.

WARTSILA EMISSIONS

TABLE 6.1: POTENTIAL EMISSIONS BASED ON MANUFACTURER'S DATA

Pollutant	Control System	Controlled Emis.				Cold per unit lb/start ^b	Warm per unit lb/start ^b	Cold per unit start/yr	Warm per unit start/yr	Normal per unit hr/yr	Per Unit ton/yr	Total 14 units ton/yr
		per unit g/kWh ^a	per unit lb/MMBtu ^a	per unit lb/hr	14 units lb/hr							
NOx	SCR	0.08	0.0193	1.49	20.86	4.85	3.09	30	80	8,732.50	6.70	93.80
CO	Ox. Cat.	0.13	0.0314	2.42	33.88	7.94	4.85	30	80	8,732.50	10.88	152.32
PM/PM10		0.139	0.0336	2.59	36.26	-	-	-	-	8,760	11.34	158.76
VOC	Ox. Cat.	0.13	0.0314	2.42	33.88	2.65	1.76	30	80	8,732.50	10.68	149.52
SO2		0.031	0.0075	0.58	8.12	-	-	-	-	8,760	2.54	35.56
NH3		0.070	0.0169	1.30	18.20	-	-	-	-	8,760	5.69	79.66
Formaldehyde	Ox. Cat.	0.008	0.0019	0.15	2.10	1.32	0.88	30	80	8,732.50	0.71	9.94
HAPs (exclud. formaldehyde)				0.20	2.80	0.37	0.37	30	80	8,732.50	0.89	12.46
Total HAPs				0.35	4.90						1.60	22.40

^a Wärtsilä post-abatement guarantee, March 31, 2004.

^b Warm and cold startup emissions are based on a 15-minute period for catalyst warmup. The maximum emissions during this 15-minute period were determined by Wartsilla and provided below:

Maximum Emissions During Startup

	Cold kg/15min	Warm kg/15min	Cold lb/15min	Warm lb/15min
NOx	2.20	1.40	4.85	3.09
CO	3.60	2.20	7.94	4.85
VOC	1.20	0.80	2.65	1.76
Formaldehyde	0.60	0.40	1.32	0.88

Estimate of Pre-Controlled Emissions for CAM Applicability Purposes

	Per Unit Emissions ton/yr	Control Efficiency	Maximum Uncontrolled Emissions ton/yr	Above CAM Threshold
NOx	6.70	94%	112	Yes
CO	10.88	94%	181	Yes
VOC	10.68	79%	51	No
Formaldehyde	0.71	97%	24	Yes



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CALCULATIONS

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WARTSILA EMISSIONS - Continued

TABLE 6.2: POTENTIAL HAP EMISSIONS BASED ON AP-42 DATA

	Emissions ^a			Control System	Effective Control Efficiency ^c	Ctrl. Emis. per unit lb/hr
	per unit lb/MMBtu	per unit lb/hr	per unit lb/start ^b			
1,1,2,2-Tetrachloroethane	<4.00E-05	3.08E-03	7.70E-04	Ox. Cat.	79%	6.47E-04
1,1,2-Trichloroethane	<3.18E-05	2.45E-03	6.12E-04	Ox. Cat.	79%	5.14E-04
1,3-Butadiene	2.67E-04	2.06E-02	5.14E-03	Ox. Cat.	79%	4.32E-03
1,3-Dichloropropene	<2.64E-05	2.03E-03	5.08E-04	Ox. Cat.	79%	4.27E-04
2-Methylnaphthalene	3.32E-05	2.56E-03	6.39E-04	Ox. Cat.	79%	5.37E-04
2,2,4-Trimethylpentane	2.50E-04	1.93E-02	4.81E-03	Ox. Cat.	79%	4.04E-03
Acenaphthene	1.25E-06	9.63E-05	2.41E-05	Ox. Cat.	79%	2.02E-05
Acenaphthylene	5.53E-06	4.26E-04	1.06E-04	Ox. Cat.	79%	8.94E-05
Acetaldehyde	8.36E-03	6.44E-01	1.61E-01	Ox. Cat.	97%	1.93E-02
Acrolein	5.14E-03	3.96E-01	9.89E-02	Ox. Cat.	79%	8.31E-02
Benzene	4.40E-04	3.39E-02	8.47E-03	Ox. Cat.	79%	7.11E-03
Benzo(b)fluoranthene	1.66E-07	1.28E-05	3.20E-06	Ox. Cat.	79%	2.68E-06
Benzo(e)pyrene	4.15E-07	3.20E-05	7.99E-06	Ox. Cat.	79%	6.71E-06
Benzo(g,h,i)perylene	4.14E-07	3.19E-05	7.97E-06	Ox. Cat.	79%	6.69E-06
Biphenyl	2.12E-04	1.63E-02	4.08E-03	Ox. Cat.	79%	3.43E-03
Carbon Tetrachloride	<3.67E-05	2.83E-03	7.06E-04	Ox. Cat.	79%	5.93E-04
Chlorobenzene	<3.04E-05	2.34E-03	5.85E-04	Ox. Cat.	79%	4.92E-04
Chloroform	<2.85E-05	2.19E-03	5.49E-04	Ox. Cat.	79%	4.61E-04
Chrysene	6.93E-07	5.34E-05	1.33E-05	Ox. Cat.	79%	1.12E-05
Ethylbenzene	3.97E-05	3.06E-03	7.64E-04	Ox. Cat.	79%	6.42E-04
Ethylene Dibromide	<4.43E-05	3.41E-03	8.53E-04	Ox. Cat.	79%	7.16E-04
Fluoranthene	1.11E-06	8.55E-05	2.14E-05	Ox. Cat.	79%	1.79E-05
Fluorene	5.67E-06	4.37E-04	1.09E-04	Ox. Cat.	79%	9.17E-05
Methanol	2.50E-03	1.93E-01	4.81E-02	Ox. Cat.	79%	4.04E-02
Methylene Chloride	2.00E-05	1.54E-03	3.85E-04	Ox. Cat.	79%	3.23E-04
n-Hexane	1.11E-03	8.55E-02	2.14E-02	Ox. Cat.	79%	1.79E-02
Naphthalene	7.44E-05	5.73E-03	1.43E-03	Ox. Cat.	79%	1.20E-03
PAH	2.69E-05	2.07E-03	5.18E-04	Ox. Cat.	79%	4.35E-04
Phenanthrene	1.04E-05	8.01E-04	2.00E-04	Ox. Cat.	79%	1.68E-04
Phenol	2.40E-05	1.85E-03	4.62E-04	Ox. Cat.	79%	3.88E-04
Pyrene	1.36E-06	1.05E-04	2.62E-05	Ox. Cat.	79%	2.20E-05
Styrene	<2.36E-05	1.82E-03	4.54E-04	Ox. Cat.	79%	3.82E-04
Tetrachloroethane	2.48E-06	1.91E-04	4.77E-05	Ox. Cat.	79%	4.01E-05
Toluene	4.08E-04	3.14E-02	7.85E-03	Ox. Cat.	79%	6.60E-03
Vinyl Chloride	1.49E-05	1.15E-03	2.87E-04	Ox. Cat.	79%	2.41E-04
Xylene	1.84E-04	1.42E-02	3.54E-03	Ox. Cat.	79%	2.98E-03
TOTAL PER UNITS			0.37			0.20
						0.0026 lb/MMBtu

^a All HAP emission factors (except for formaldehyde) are taken from AP-42 Section 3.2, Natural Gas-fired Reciprocating Engines, Table 3.2-2, 7/2000. Formaldehyde emissions are provided in Table 5.1.
^b Startup emissions conservatively estimated as completely uncontrolled emissions at the maximum heat input for 15 minutes.
^c Mfg. control efficiency for VOCs is used for all HAPs except for the aldehydes. The control efficiency for aldehydes is based on the mfg. control efficiency for formaldehyde.



CALCULATIONS

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FACILITY-WIDE PTE

TABLE 6.4: FACILITY-WIDE PTE

Pollutant	Wartsila		Facility	Major
	Generator:	EDG	-Wide	Source
	ton/yr	ton/yr	PTE	Threshold
NO _x	93.80	1.32	95.12	250
CO	152.32	0.28	152.60	250
PM	158.76	0.09	158.85	250
VOC	149.52	0.11	149.63	250
SO ₂	35.56	0.02	35.58	250
NH ₃	79.66	-	79.66	250
Formaldehyde	9.94	0.0004	9.94	10
Total HAPs	22.40	0.0024	22.40	25

TABLE 6.5: FACILITY-WIDE MAXIMUM HOURLY EMISSIONS

Pollutant	Wartsila		Facility-Wide
	Generators	EDG	Maximum
	lb/hr	lb/hr	lb/hr
NO _x	20.86	5.27	26.13
CO	33.88	1.14	35.02
PM	36.26	0.37	36.63
VOC	33.88	0.43	34.31
SO ₂	8.12	0.07	8.19
NH ₃	18.20	-	18.20
Formaldehyde	2.10	0.0018	2.10
Total HAPs	4.90	0.010	4.91



CALCULATIONS

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STACK PARAMETERS

Constants

0.849 atm - site pressure at 1,330 ft
 68 °F - STD temperature
 459.67 °R = 0 °F

TABLE 6.6: WARTSILA STACK PARAMETERS

Source	Exhaust Flow		Temperature		Ht.	Dia.	Vel.	Ht.	Dia.	Vel.
	ACFM	DSCFM	F ^a	K	ft	ft	ft/s	m	m	m/s
Wartsila	66,569	23,000	726.4	659	54.8	3.74	101.0	16.71	1.14	30.78

^aBased on the average measured temperatures from the Western 102 Power Plant 2010 stack tests for NOx and CO emissions.

EDG Stack Parameters (40 CFR 60, Appendix A, Method 19)

Wet Conditions

EDG

F = 10,320 wscf/MMBtu*

B = 0.027 default value

O2% wet = 9%

H = 1.5 MMBtu/hr

standard exhaust flow = 28,541 SCF/hr (wet)

476 SCFM (wet)

T = 900 °F

P = 0.849 atm

actual exhaust flow = 1,440 ACFM (wet)

Dry Conditions

EDG

F = 9,190 dscf/MMBtu*

B = 0.027 default value

O2% dry = 9%

H = 1.5 MMBtu/hr

standard exhaust flow = 25,416 SCF/hr (dry)

424 SCFM (dry)

* 40 CFR Part 60, Appendix A, Method 19, Table 19-2 "Oil"

TABLE 6.8: OTHER EQUIPMENT STACK PARAMETERS

Source	Exhaust Flow		Temperature		Ht.	Dia.	Vel.	Ht.	Dia.	Vel.
	ACFM	DSCFM	F	K	ft	ft	ft/s	m	m	m/s
EDG	1,440	424	900	755	29.5	0.5	122.2	8.99	0.152	37.26

Appendix 7

EMISSIONS CAP

Please Attach Emission Cap Information

Please Check if not applicable

Instructions

Federally enforceable emissions cap: Please include in Appendix 7 the information required in 1 through 3 below for each federally enforceable emissions cap in Appendix 7. The request for a federally enforceable emissions cap must, at a minimum:

1. State each applicable requirement which the applicant seeks to avoid [NAC 445B.296.2(a)];
2. Demonstrate that any applicable requirements not avoided by the cap will be met [NAC 445B.296.2(b)];
3. Contain proposed conditions, including monitoring and recordkeeping conditions for each proposed federally enforceable emissions cap, of the operating permit which will ensure compliance with any applicable requirement [NAC 445B.296.2(c)].
4. Contain any additional information that the director determines necessary to process the application. [NAC 445B.296.2(d)]

(Note: A common example of an emissions cap is a combined limitation on the yearly (annual) amount of fuel which may be combusted between two boilers.)

EMISSIONS CAP

The Western 102 Power Plant has emission caps across all 14 engines. The emission caps are provided in Table 7.1.

Table 7.1: Emission Caps for all 14 Engines

Pollutant	Emission Cap (ton/yr)
PM	158.76
PM ₁₀	158.76
NO _x	93.80
CO	152.32
VOC	149.52
SO ₂	35.56
Formaldehyde	10.00

The specific provisions of NAC 445B.296.2 are addressed as follows:

- (a) State each applicable requirement that the applicant seeks to avoid. *The emission caps do not avoid any applicable requirements.*
- (b) Demonstrate that the applicant will comply with any applicable requirements that the applicant does not avoid with the federally enforceable emissions cap. *Appendix 1, Section 8 demonstrates compliance with emission-unit-specific applicable requirements, and Appendix 3 demonstrates compliance with facility-wide applicable requirements. The requested emissions cap will not alter the demonstration of compliance.*
- (c) Contain proposed conditions of the operating permit which will ensure compliance with any applicable requirement. *Class I Air Quality Operating Permit No. AP4911-2189 contains parametric emission monitoring of each engine and each pollutant for the purpose of determining annual emissions (on a 12-month rolling total basis) of PM, PM₁₀, NO_x, CO, VOC, SO₂, and formaldehyde. Barrick will continue to parametrically monitor and record emissions for each unit and all units combined in accordance with the emission caps.*
- (d) Contain any additional information that the Director determines is necessary to process the application. *Not applicable.*

Appendix 8

**NARRATIVE
DESCRIPTION**

-

**PROCESS FLOW
DIAGRAM**

-

PLOT PLAN

-

MAP

-

DUST CONTROL PLAN

Instructions

This Appendix must include the following:

1. A narrative description of the entire process. The narrative must include descriptions of all emissions of any regulated air pollutants for which the source is defined as major, and a description of all emissions of regulated air pollutants from all emission units. [NAC 445B.3363.1(a), NAC 445B.3363.1(b)]
2. A detailed process flow diagram of all processes indicating emissions control application points, throughput rate/design heat input rate value, and emission unit identification numbers. [NAC 445B.295.8]
3. A plot plan of the entire source, drawn to scale (include scale). The plot plan shall include the location of all emission units (clearly labeled), emission release points (stack and/or emission point locations, clearly labeled), the fence line, and the property boundary. [NAC 445B.295.8]
4. A USGS 7-1/2" or 15" map or other topographic map (with topographic lines clearly visible) indicating the following [NAC 445B.295.8]:
 - a. Exact location of entire source (also indicate all areas of surface disturbance).
 - b. Property boundary.
 - c. Location of fence or other physical barrier around source (NOTE: This is required.)
 - d. Scale of map.
 - e. UTM's, if other than a USGS 7-1/2" or 15" map is submitted.
 - f. Elevation contours and contour intervals, and contour values, clearly visible and in sufficient detail to determine elevations.
5. For surface area disturbance that will exceed 20 acres, provide a dust control plan, with the exception of Pahrump Valley. In Pahrump Valley, for surface area disturbance of **5 acres or more**, please provide a dust control plan. [NAC 445B.295.8]

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ABBREVIATIONS AND ACRONYMS

CFR	Code of Federal Regulations
CO	Carbon monoxide
EDG	Emergency Diesel Generator
HAP	Hazardous Air Pollutant
MW	Megawatt
NAC	Nevada Administrative Code
NO _x	Nitrogen oxides
PM	Particulate matter
PM ₁₀	Particulate matter less than 10 microns in diameter
PSD	Prevention of Significant Deterioration
SCR	Selective Catalytic Reduction
SO ₂	Sulfur dioxide
VOC	Volatile Organic Compounds

NARRATIVE DESCRIPTION, PROCESS FLOW DIAGRAM, PLOT PLAN, MAP, DUST CONTROL PLAN

This appendix provides a description of the Western 102 Power Plant and addresses the dust control plan requirements.

8.1 Facility Description

Barrick Goldstrike Mines Inc. (Barrick) has constructed and operates the Western 102 Power Plant with a maximum gross electrical output of approximately 118 MW. The facility consists of fourteen (14) Wartsila 20V34SG generator sets and one (1) Detroit Diesel 125D8EJB emergency diesel generator. The generators are fired solely on natural gas, and the emergency generator is fired solely on diesel. A process flow diagram is provided in Figure 8.1. Emission calculations for the equipment are provided in Appendix 6.

8.1.1 Facility Location and Plot Plan

The facility is located approximately 25 kilometers east of Reno, Nevada, on the south side of the Truckee River. A map showing the facility location is provided as Figure 8.2. A facility plot plan is provided in Appendix 9, Figure 2.

8.1.2 Source Classification and Permitting Requirements

Class I Air Quality Operating Permit No. AP4911-2189 limits total facility emissions to less than 250 tons per year per pollutant.¹ Thus, the facility has not triggered a PSD review under the Prevention of Significant Deterioration (PSD) Program per 40 CFR Part 52.21.² The facility is also not a major source of hazardous air pollutant (HAP) emissions. Potential emissions of HAPs are less than 10 tons per year per HAP, and the potential emissions of all HAPs in aggregate are less than 25 tons per year. The facility is defined as a major source per NAC 445B.094 because total facility CO, VOC, and PM₁₀ emissions are greater than 100 tons per year. Therefore, the facility is required to hold a Class I Operating Permit.

8.1.3 Control of NO_x, CO, and VOC Emissions

A selective catalytic reduction (SCR) system and oxidation catalyst are installed in the exhaust stream of each generator to control nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and VOC HAP (including formaldehyde) emissions. These control devices are operated in accordance with Class I Air Quality Operating Permit No. AP4911-2189.

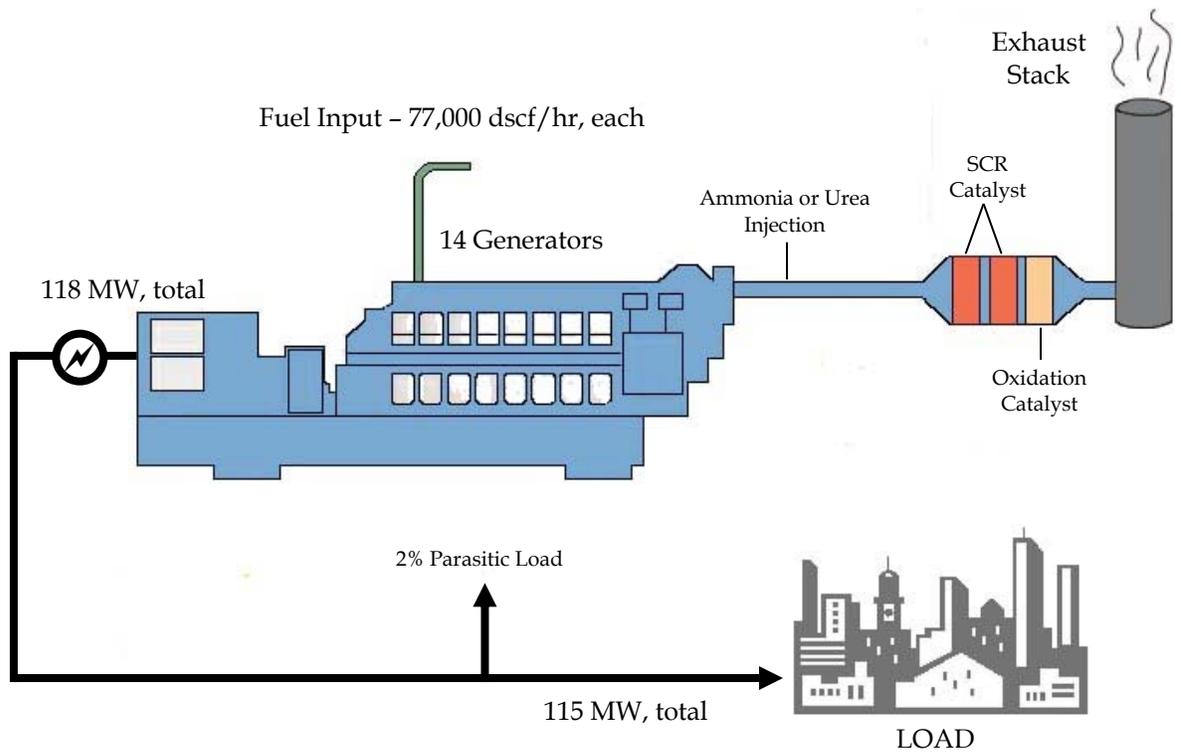
¹ The power plant is not one of the 28 listed source categories with a major stationary source threshold level of 100 tons per year per pollutant.

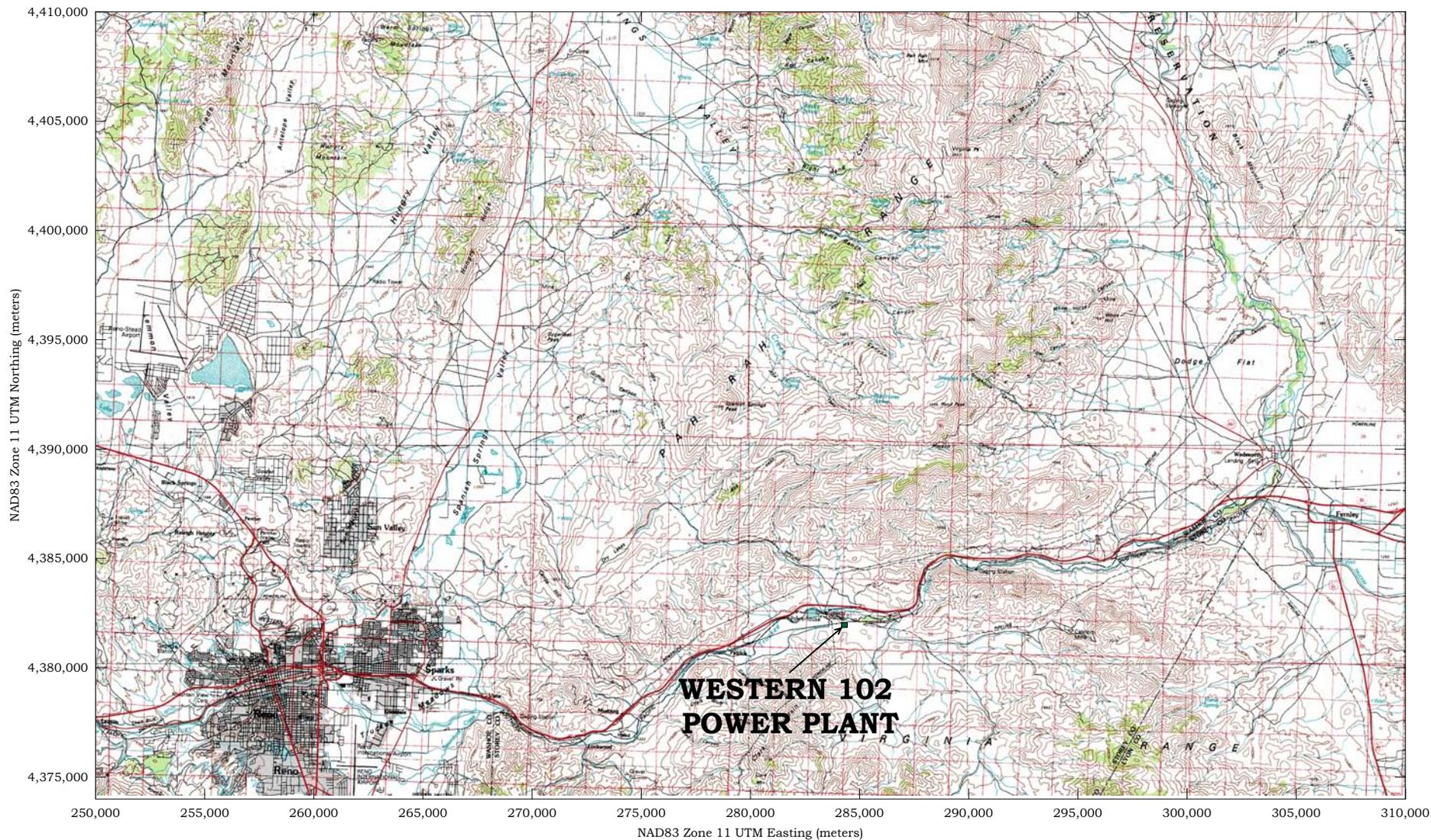
² The facility is a major stationary source for greenhouse gases (GHG). See Appendix 6 for GHG emission calculations.

8.1.4 Control of PM and SO₂ Emissions

The emissions of particulate matter (PM) and sulfur dioxide (SO₂) from the generators are minimized by employing good combustion practices and firing the units solely on natural gas.

Figure 8.1: Process Flow Diagram





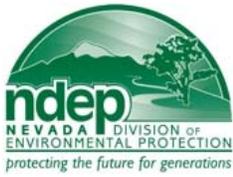
**FIGURE 8.2
FACILITY LOCATION MAP**

WESTERN 102 POWER PLANT



8.2 Dust Control Plan

The following pages contain the Surface Area Disturbance Permit Fugitive Dust Control Plan.



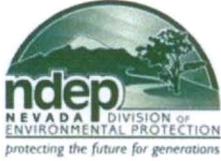
**SURFACE AREA DISTURBANCE PERMIT
FUGITIVE DUST CONTROL PLAN**

I. COMPANY INFORMATION				
COMPANY NAME:	Barrick Goldstrike Mines, Inc., Western 102 Power Plant	PERMIT NUMBER: AP		4911-2189
BUSINESS ADDRESS:	C/O: Barrick Management Corporation 136 E. South Temple, Suite 1300	Salt Lake City	UT	84111
	(STREET)	(CITY/TOWN)	(STATE)	(COUNTY)
MAILING ADDRESS:	136 E. South Temple, Suite 1300	Salt Lake City	UT	84111
	(STREET/P.O BOX)	(CITY/TOWN)	(STATE)	(ZIP CODE)
PHONE NUMBER:	775-343-3325	FAX NUMBER:	775-343-3327	

II. RESPONSIBLE OFFICIAL (R.O.)				
R.O. NAME	Larry Morasse	TITLE	General Manager	
BUSINESS ADDRESS:	2555 Waltham Way	McCarran	NV	89434
	(STREET)	(CITY/TOWN)	(STATE)	(COUNTY)
MAILING ADDRESS:	2555 Waltham Way	McCarran	NV	89434
	(STREET/P.O BOX)	(CITY/TOWN)	(STATE)	(ZIP CODE)
PHONE NUMBER:	775-343-3325	FAX NUMBER:	775-343-3327	

III. PHYSICAL PLANT				
PROJECT ADDRESS:	25 kilometers east	Reno	NV	Storey
	(STREET)	(CITY/TOWN)	(STATE)	(COUNTY)
MAILING ADDRESS:	2555 Waltham Way	McCarran	NV	89434
	(STREET/P.O BOX)	(CITY/TOWN)	(STATE)	(ZIP CODE)
PHONE NUMBER:	775-343-3325	FAX NUMBER:	775-343-3327	
MAJOR X- STREETS:				
SECTION:	33 & 34	TOWNSHIP:	29N	RANGE: 22E
UTM:	North 4,381.9 km, East 284.3 km (Zone 11)			
PROJECT MAPS: (MARK TYPE OF MAP ATTACHED)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	(TRACT)	(SITE)**	(TOPOGRAPHIC)	(OTHER - Aerial Photo)

**See Appendix 9, Figure 1 – Facility Location and Layout.



**SURFACE AREA DISTURBANCE PERMIT
FUGITIVE DUST CONTROL PLAN**

IV. ACKNOWLEDGEMENT OF ENVIRONMENTAL CONTROL REQUIREMENTS BY R.O.

I, Larry Morasse, the Responsible Official for Barrick Goldstrike Mines, Inc., Western 102 Power Plant, have: (1) read and understand the provisions of Nevada Administrative Code (NAC) Section 445B.22037 "Emissions of Particulate Matter: Fugitive Dust" which requires that we prevent controllable fugitive dust to become airborne on a 7-day/24-hour /day basis at our Project's site; and , (2) read and understand the terms and conditions of our Project's Nevada Division of Environmental Protection Bureau of Air Pollution Control Permit AP4911-2189.

Signed

L. D. Morasse

(R.O. Signature)

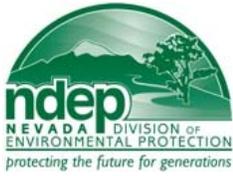
Date

February 14, 2011

V. PROJECT OPERATIONS

Description of Project Operations:

The Western 102 Power Plant consists of fourteen Wartsila 20V34SG generator sets for electrical power generation, one emergency generator, four solar panel areas, and support and maintenance facilities. The primary traffic and parking areas are paved and all other disturbed areas are covered with crushed rock placed on top of a weed mat to control fugitive dust emissions.



**SURFACE AREA DISTURBANCE PERMIT
FUGITIVE DUST CONTROL PLAN**

VI. FUGITIVE DUST CONTROL - BEST PRACTICAL METHODS

Best Practical Methods for controlling fugitive dust (Project Site): The best practical methods (BPMs) to be used for controlling fugitive dust generated at this Project's disturbed areas are as follows. This is not an all inclusive list, other BPMs may also be appropriate for this section (check appropriate BPMs):

- Use of water trucks to spray water on disturbed areas on a regular basis
- Pre-watering of areas to be disturbed (including all unpaved onsite roads and staging areas)
- Graveling of roadways, storage areas and staging areas
- Posting and limiting vehicle speeds to 10-15 miles per hour
- Use of wind fences to reduce wind impacts
- Cessation of all operations when winds make fugitive dust control difficult
- Fencing or berming to prevent unauthorized access to disturbed areas.
- Application of water sprays on material storage piles on a regular basis
- Covering material storage piles with tarpaulin or geo-textiles; tenting
- Use of overhead water spray rack or water hoses to water down uncovered trucks transporting processed materials prior to leaving Project boundaries.
- Track-out controls
 - Graveled entrance and exit areas
 - Street Sweeping
 - Other
- Subcontractors: Any and all subcontractors (including truck drivers) informed of their responsibilities for the control of fugitive dust while they are on the project site (including haul roads to and from the site). In addition, they will be advised of the best practical methods for controlling their fugitive dust as well as keeping off adjacent areas not covered by the project's permit.
- Training of construction equipment operators to recognize fugitive dust generation and having the authority to shut down operations until water truck arrives and sprays water on the disturbed areas
- Equipment Operator and/or Responsible Official has read and understands the requirements in the Project's Surface Area Disturbance Permit and Plan
- Other Applicable BPM: All primary traffic and parking areas are paved.
- Other Applicable BPM: All other disturbed areas are covered with crushed rock placed on top of a weed mat.
- Other Applicable BPM: _____

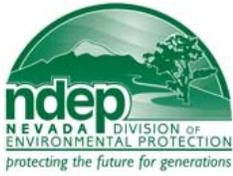
VII. PROJECT FUGITIVE DUST/EMISSIONS RESOURCES INFORMATION

Water Trucks: Water trucks may be owned or rented. In the event that one or more water truck(s) necessary for control of fugitive dust (owned, rented or leased) becomes inoperable, additional water truck(s) will be rented or leased for until such time the water truck(s) are operable. Operable water truck (s) must be available on 7-day/week, 24-hour/day basis.

Number of Water Trucks: N/A

Water Truck # 1		Capacity Gallons:	
Water Truck # 2		Capacity Gallons:	
Water Truck # 3		Capacity Gallons:	

Location of water supply for control of fugitive dust: N/A



**SURFACE AREA DISTURBANCE PERMIT
FUGITIVE DUST CONTROL PLAN**

VII. PROJECT FUGITIVE DUST/EMISSIONS RESOURCES INFORMATION (Continued)

Water Truck and Construction Equipment Operational Log – N/A: the daily operations log book for recording the operation of the water truck and construction equipment is maintained on the Project site. The log contains the following information:

- Hours of operation for each water truck and construction equipment (front loader, scraper, etc.) used onsite.
- The daily quantity of water used for fugitive dust control purposes.
- Starting and ending times for the workday.
- Record of water truck (including rental water truck) and construction equipment maintenance, malfunctions and repairs

VIII. NOTIFICATION

Excess Emissions: **The following training requirements are recommended as an aid in maintaining compliance with permit terms and conditions and are not mandatory.** It is recommended that the R.O. and/or selected equipment operators be given USEPA Method 9 visual emission training (or equivalent, as determined by NDEP) to recognize when the facility's permit's opacity limits are being exceeded and procedures to follow to bring systems back into compliance. It is recommended that all training records be kept with the facility's Process and Emission Control Equipment Operational Log.

IX. TRAINING

Training Requirements: **The following training requirements are recommended as an aid in maintaining compliance with permit terms and conditions and are not mandatory.** It is recommended that the R.O. and/or selected equipment operators be given USEPA Method 9 visual emission training (or equivalent, as determined by NDEP) to recognize when the facility's permit's opacity limits are being exceeded and procedures to follow to bring systems back into compliance. It is recommended that all training records be kept with the facility's Process and Emission Control Equipment Operational Log.

X. PLAN REVISION

Plan Revision Requirements: In the event there are changes in the operation of the Project, modifications made to the Project's Air Quality Operating Permit or changes to the Nevada Administrative Code affecting this plan, the plan shall be revised to reflect those changes and modifications and resubmitted to the Nevada Division of Environmental Protection for review and evaluation.

Plan Date:	February 4, 2011
-------------------	------------------

Western 102 Power Plant - Aerial Photo



Appendix 9

**ENVIRONMENTAL
EVALUATION
AND
DISPERSION MODELING
FILES**

Please Attach Modeling Files and Supporting Information

Instructions

Environmental Evaluation [NAC 445B.3363.3]:

An applicant for a Class I operating permit or a revision to an operating permit must submit, in Appendix 9, an environmental evaluation for:

1. A new stationary source which emits, or has the potential to emit, greater than 25 tons of a regulated air pollutant per year [NAC 445B.310.1];
2. A modification to an existing stationary source that meets the following criteria [NAC 445B.310.2]:
 - a. The existing stationary source has the potential to emit greater than 25 tons of a regulated air pollutant per year; and
 - b. The proposed modification has the potential to emit greater than 10 tons of a regulated air pollutant per year.
3. The environmental evaluation shall contain all information required in NAC 445B.311.
4. The environmental evaluation includes of dispersion models used to determine the location and estimated value of the highest concentration of regulated air pollutants [NAC 445B.311.4].

Modelling Analyses: [NAC 445B.311.1(f); NAC 445B.311.3; NAC 445B.311.4]

The modelling analyses must utilize the latest USEPA approved or equivalent air dispersion models. The analysis must clearly identify the following information at a minimum.

1. Model
 - Name and type used.
 - Default options used.
2. Emissions Data
 - Source parameters (stack/source height, location, dimensions)
 - Building dimensions
 - Background pollutant concentrations
3. Meteorological Data
 - Location of data set utilized
 - Year of data record utilized
 - Quality of data utilized
 - Method for treating missing data
4. Receptors
 - Grid spacing
 - Excluded receptors from within fence line/property boundary
 - Identify simple or complex terrain

The modeling analysis must be provided in digital format and must consist of both the input and output data files. One hard copy of the input and output files must be provided. All meteorological data utilized that has not been provided by the Bureau of Air Pollution Control must also be submitted in digital format. Please include all modeling files in Appendix 9.

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ABBREVIATIONS AND ACRONYMS

AAQS	Ambient Air Quality Standards
AERMOD	AMS/EPA Regulatory Model
AERMAP	AMS/EPA Regulatory Model Terrain Preprocessor
AMS	American Meteorological Society
BAPC	Bureau of Air Pollution Control
BPIP	Building Profile Input Program
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DEM	Digital Elevation Model
EDG	Emergency Diesel Generator
EPA	Environmental Protection Agency
HIH	High First High
MMBtu	Million Metric British Thermal Units
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAD83	North American Datum of 1983
NDEP	Nevada Department of Environmental Protection
NED	National Elevation Dataset
NMOC	Non-Methane Organic Carbon
NO _x	Nitrogen Oxides
NO ₂	Nitrogen Dioxide
O ₃	Ozone
PM ₁₀	Particulate Matter Less than 10 Microns in Diameter
pphm	parts per hundred million
PRIME	Plume Rise Model Enhancements
PTE	Potential to Emit
RPM-II	Reactive Plume Model, Version II
SO ₂	Sulfur Dioxide
tpy	tons per year
USGS	United States Geological Survey
UTM	Universal Traverse Mercator
VOC	Volatile Organic Compounds

INTRODUCTION

Air dispersion modeling for the Western 102 Power Plant was completed as part of the Class I permit renewal for submittal to the Nevada Department of Environmental Protection (NDEP). The power plant has a maximum gross electrical output of 118.146 megawatts (MW) at a heat input rate of 1,078 Million Metric British Thermal Units per hour (MMBtu/hr) and is located approximately 25 kilometers east of Reno, Nevada, on the south side of the Truckee River.

AIR QUALITY IMPACT ANALYSIS

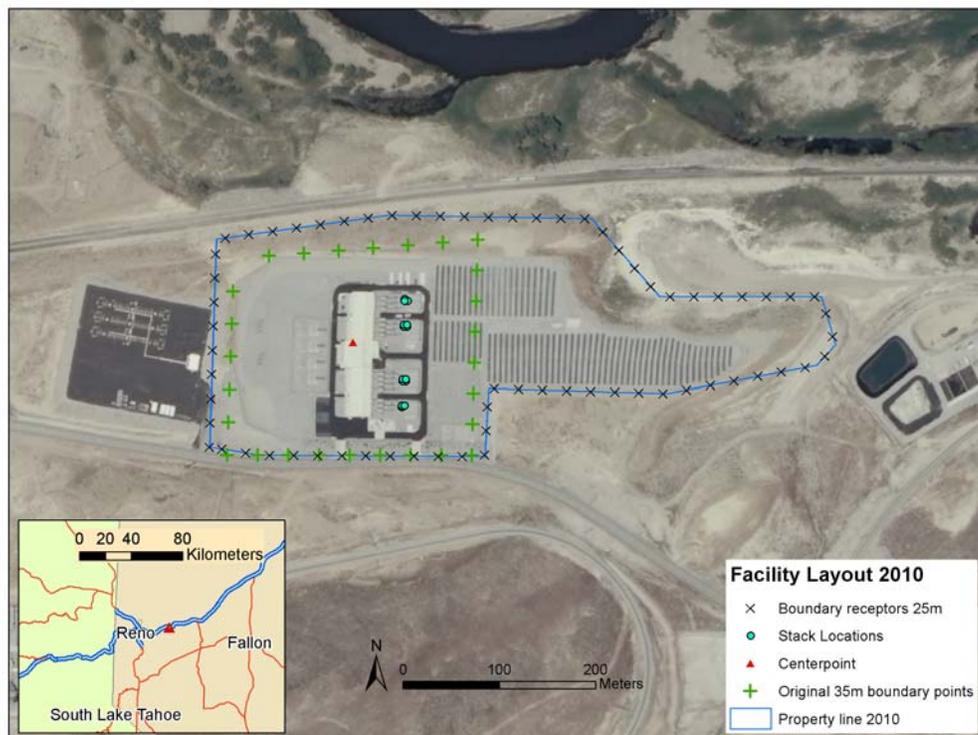
For the renewal of the Class I Operating Permit No. AP4911-2189, modeling was conducted for carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter less than 10 microns in diameter (PM₁₀), sulfur dioxide (SO₂), and ozone (O₃). Air dispersion modeling using AERMOD (AMS [American Meteorological Society]/EPA [Environmental Protection Agency] Regulatory Model) was completed for CO, NO_x, PM₁₀, and SO₂ to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) and Nevada's Ambient Air Quality Standards (AAQS). For ozone, the Scheffe Ozone Screening Method was used.

The NDEP Bureau of Air Pollution Control (BAPC) oversees air permitting. NDEP/BAPC modeling guidance (personal communication, Patrick Mohn, January 6, 2011), the EPA's Guideline on Air Quality Models, 40 Code of Federal Regulations (CFR) Part 51 Appendix W (November 9, 2005), and NDEP rules and regulations were followed during preparation of this dispersion modeling. This modeling report presents the assumptions and methodologies that were used in the air quality analysis for demonstrating compliance with the state and federal ambient air quality standards.

1.1 Facility Location

The facility center coordinates in Universal Transverse Mercator (UTM) Zone 11, North American Datum of 1983 (NAD83) are 284,300 meters east and 4,381,950 meters north. The property is fenced and public access is restricted. An aerial view of the facility is presented in Figure 1.

Figure 1: Facility Location and Layout



1.2 Facility Emissions

The sources of air pollution at the facility include:

- Fourteen 8,439 MW natural gas-fired Wartsila 20V34SG generators (Source IDs S2.001 through S2.014).
- One 170 hp emergency diesel-fired generator (Source ID EDG).

The Wartsila 20V34SG generators may operate up to 24 hours per day, 7 days per week, and 52 weeks per year. The potential emissions per pollutant for the facility are given in Table 1. For a renewal of an operating permit for an existing stationary source, the NDEP requires that an environmental evaluation be conducted. Based on the emission totals for the facility provided in Table 2, PM₁₀, CO, SO₂, and NO_x were modeled, and a screening value was determined for ozone.

Table 1: Total Facility Emissions by Source Type and Pollutant

Pollutant	S2.001-S2.014 PTE (tpy)	EDG PTE (tpy)	Total (tpy)
PM ₁₀	158.76	0.09	158.85
NO _x	93.80	1.32	95.12
CO	152.32	0.28	152.60
VOC	149.52	0.11	149.63
SO ₂	35.56	0.02	35.58

The 14 Wartsila 20V34SG generator sets are fired solely on natural gas. Ancillary equipment includes an emergency diesel generator (EDG). Emission calculations are provided in Appendix 6. Emission rates by source are provided in Table 2.

Table 2: Emission Rates for Each Pollutant by Source

Source ID	NO _x (lb/hr) Ann	SO ₂ (lb/hr)			CO (lb/hr)		PM ₁₀ (lb/hr)	
		3-hr	24-hr	Ann	1-hr*	8-hr*	24-hr	Ann
S2.001-S2.014	1.53	0.58	0.58	0.58	31.76	31.76	2.59	2.59
EDG	0.004	0.03	0.001	4.7E-05	0.57	0.57	0.008	0.0003

* For CO, the cold catalyst start emission rate 31.76 lb/hr was used for both the 1- and 8-hour emissions.

The maximum emissions for EDG modeling are based on maintenance operation emissions, which are a maximum of 30 minutes each month.¹ Except for maintenance operation, the EDG is not operated unless the plant (all 14 Wartsila engines) is offline.

Source locations and parameters are provided in Table 3. The EDG has a capped vertical stack. Thus, the stack exit velocity was set at 0.001 m/s, as directed in the NDEP guidelines.

Table 3: Source Locations and Stack Parameters

Source ID	UTM Easting (m)	UTM Northing (m)	Base Elevation (m)	Stack Height (m)	Exhaust Temp. (°K)	Exhaust Velocity (m/s)	Exhaust Diameter (m)
S2.001	284,353.4	4,381,995.4	1,327	16.71	659	30.78	1.14
S2.002	284,353.4	4,381,993.4	1,327	16.71	659	30.78	1.14
S2.003	284,356.4	4,381,993.4	1,327	16.71	659	30.78	1.14
S2.004	284,352.7	4,381,968.4	1,327	16.71	659	30.78	1.14
S2.005	284,352.7	4,381,966.4	1,327	16.71	659	30.78	1.14
S2.006	284,355.7	4,381,966.4	1,327	16.71	659	30.78	1.14
S2.007	284,355.7	4,381,968.4	1,327	16.71	659	30.78	1.14
S2.008	284,351.4	4,381,912.0	1,327	16.71	659	30.78	1.14
S2.009	284,351.4	4,381,910.0	1,327	16.71	659	30.78	1.14
S2.010	284,354.4	4,381,910.0	1,327	16.71	659	30.78	1.14
S2.011	284,354.4	4,381,912.0	1,327	16.71	659	30.78	1.14
S2.012	284,350.4	4,381,885.3	1,327	16.71	659	30.78	1.14
S2.013	284,350.4	4,381,883.3	1,327	16.71	659	30.78	1.14
S2.014	284,353.4	4,381,885.3	1,327	16.71	659	30.78	1.14
EDG	284,324.0	4,381,932.9	1,327	9.00	755.37	0.001	0.15

1.3 Standards

A summary of the applicable regulatory standards are listed in Table 4. Model results were compared with the applicable standards.

¹ Annual PTE is based on 500 hours per year in accordance with U.S. EPA's September 6, 1995, memorandum, *Calculating Potential to Emit (PTE) for Emergency Generators*.

Table 4: Summary of Regulatory Standards

Pollutant	Average Period	National	Nevada
		AAQS ($\mu\text{g}/\text{m}^3$)	AAQS ($\mu\text{g}/\text{m}^3$)
CO	1-hour	40,000	40,000
	8-hour	10,000	7,000*
NO ₂	Annual	100	100
O ₃	1-hour	235	235
PM ₁₀	24-hour	150	150
	Annual	50	50
SO ₂	3-hour	--	1,300
	24-hour	365	365
	Annual	80	80

* Two Nevada AAQS values exist for the 8-hour CO standard depending on elevation. The more stringent Nevada AAQS will be used since several receptors are at or greater than 5,000 feet above mean sea level.

1.4 Model Assumptions and Methods

The methods and data sets used to estimate the ambient concentrations as a result of the dispersion of air emissions from the proposed facility are described in the following sections.

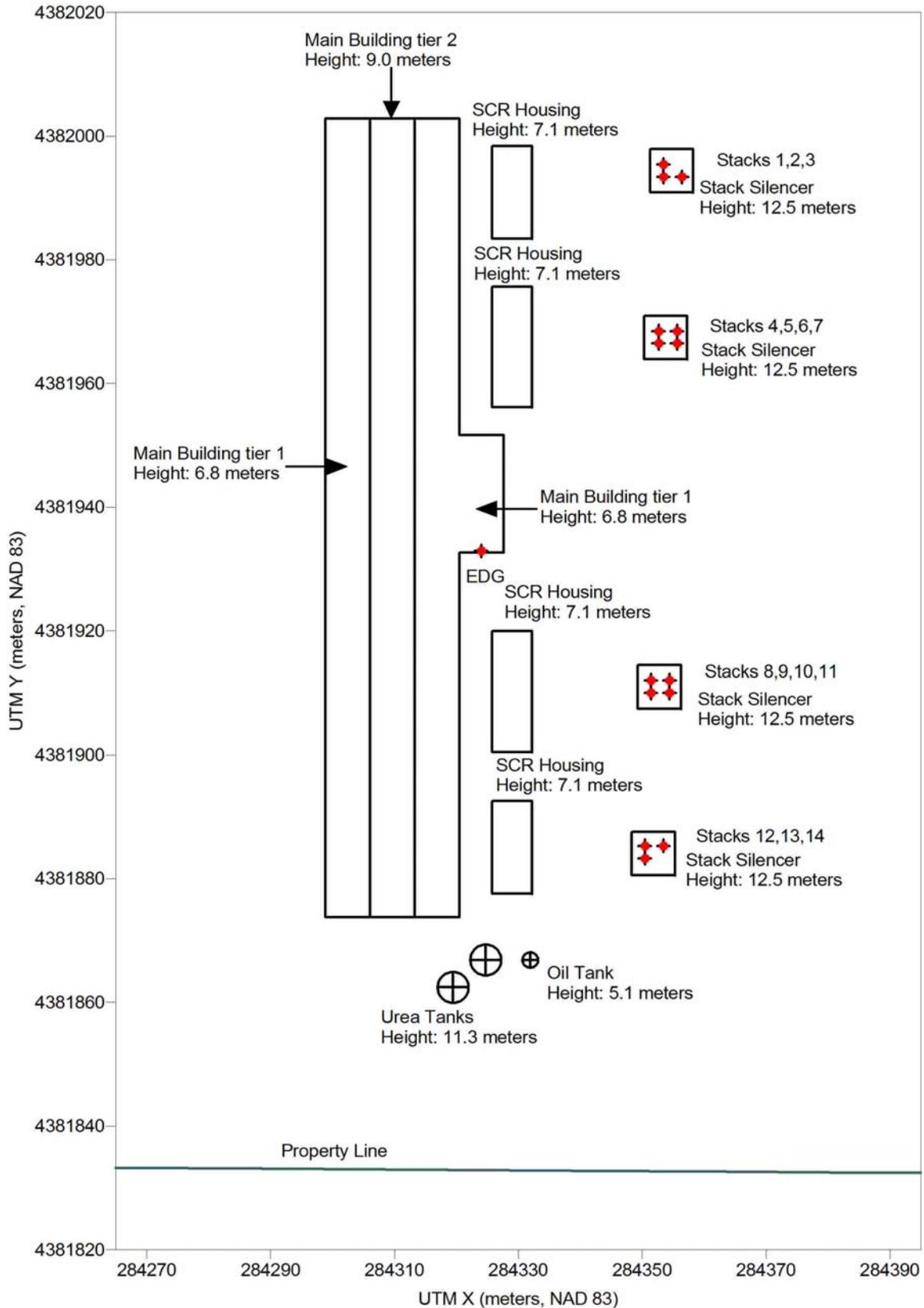
1.4.1 Model Selection

For this analysis, the most recent version (09292) of AERMOD was used to estimate the air quality impacts resulting from the Western 102 Power Plant. AERMOD was run for the facility and the maximum impact was added to the background concentration for comparison to the AAQS.

1.4.2 Good Engineering Practice Building Heights/Building Downwash

Building downwash was incorporated into AERMOD runs. The latest version of AERMOD contains PRIME (Plume Rise Model Enhancements) algorithms for downwash calculations. The most recent version of the Building Profile Input Program (BPIP) with PRIME (BPIP/PRM, version 04274) was used to calculate building downwash parameters for input to AERMOD. The building and source locations are shown in Figure 2. The main building height is 9.0 meters.

Figure 2: Facility Plot Plan



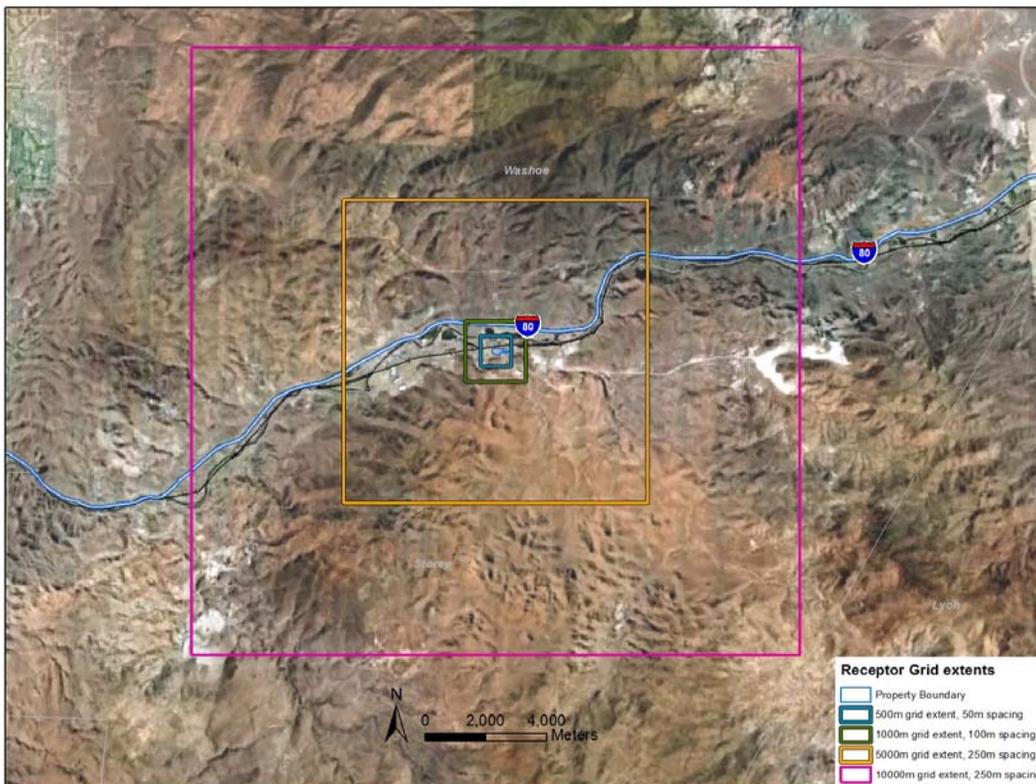
1.4.3 Receptors

To complete air dispersion modeling, a Cartesian receptor grid was developed with the following spacing:

- Discrete property line receptors spaced approximately 25 meters apart;
- Fine grid receptors spaced at approximately 50-meter intervals out to 500 meters from the property line;
- Medium grid receptors spaced at approximately 100-meter spacing out to 1,000 meters from the property line; and
- Coarse grid receptors spaced at approximately 250-meter spacing from the edge of the medium grid out to 5,000 meters from the property line.

The receptor grid was extended out to 10 km with 250-meter spacing for the PM₁₀ 24-hour model runs to ensure that the significant impacts were bounded. The modeling receptor grids extent are shown in Figure 3.

Figure 3: Modeling Receptor Grids



1.4.4 Terrain Data

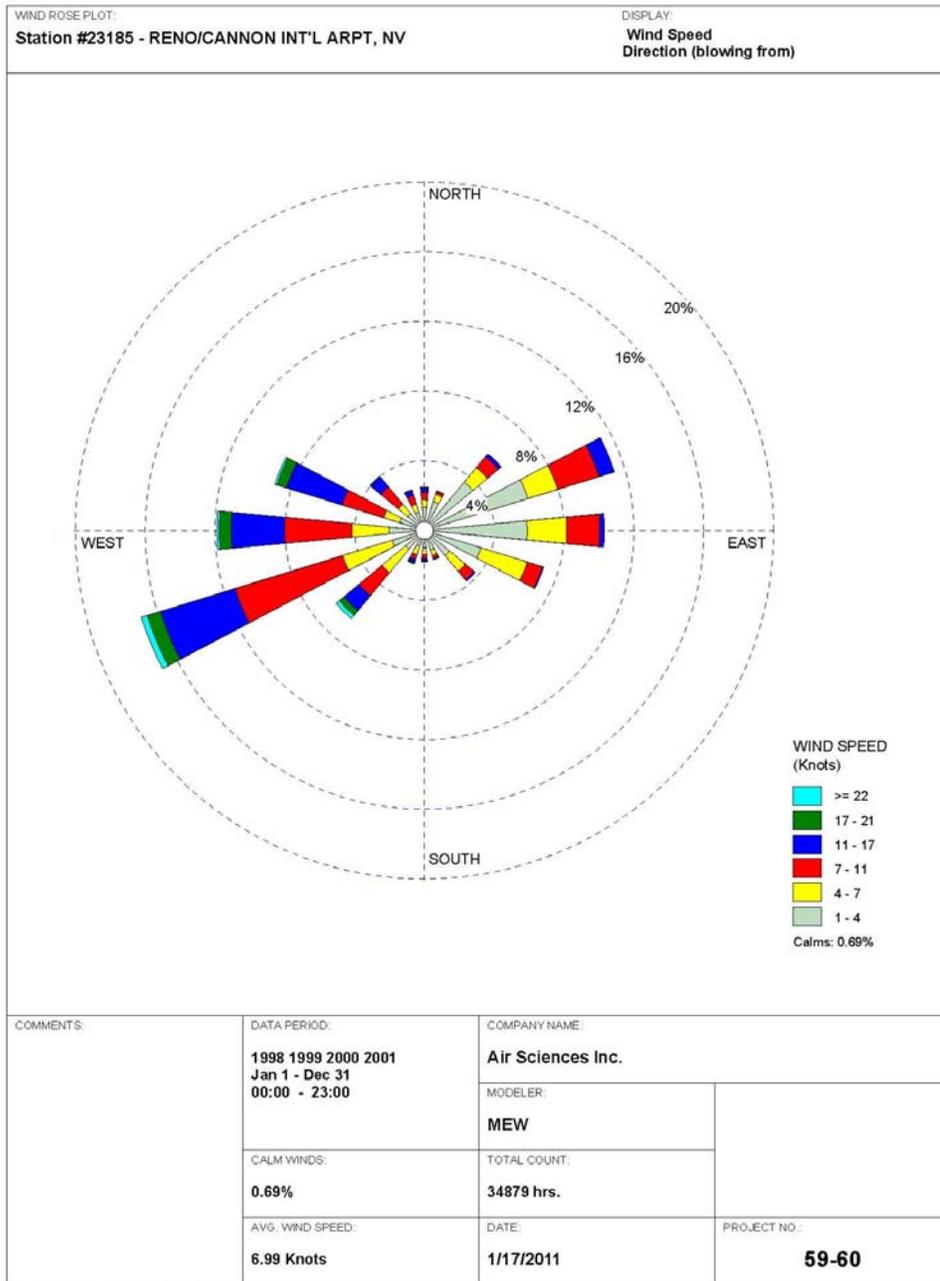
The most recent AERMAP (AMS/EPA Regulatory Model Terrain Preprocessor) terrain data preprocessor, version 09040, was run to generate receptor elevations and terrain hill profiles for the modeling domain using 1/3" National Elevation Dataset (NED) data from the United States Geological Survey's (USGS) National Map Seamless Server.² AERMAP uses either USGS 1-degree and 7.5-minute Digital Elevation Model (DEM) files or the NED data to locate the height and location of terrain (height scale factor) that has the greatest influence on each receptor.

1.4.5 Meteorological Data

Four years (1998–2001) of processed (AERMOD-ready) hourly meteorological data was provided by the NDEP/BAPC. This meteorological data was generated using the on-site data collected near the Tracy Power Plant (located about one mile northwest of the facility) and the surface observations at the Reno Station (WBAN #23185). A four-year composite wind frequency distribution diagram for this data set is shown in Figure 4.

² <http://seamless.usgs.gov/http://seamless.usgs.gov/>

Figure 4: Wind Frequency Distribution of Meteorological Data (1998–2001)



WRPLOT View - Lakes Environmental Software

1.4.6 Background Concentrations

For NAAQS compliance demonstration, background concentrations were added to the predicted maximum impacts from the facility to account for the air pollution contributions from other sources, such as nearby industrial facilities, vehicular traffic, and commercial and residential emissions in the locality. Ambient monitoring data derived from ambient monitoring conducted in the Reno/Sparks area (2007–2009) and at the Tracy Power Plant were provided by NDEP

(personal communication, Patrick Mohn, January 12, 2011). Table 5 shows these background values in $\mu\text{g}/\text{m}^3$.

Table 5: Background Pollutant Concentrations for the Reno/Sparks Area for 2007–2009

Pollutant	Averaging Time	Background Concentration ($\mu\text{g}/\text{m}^3$)
CO	1-hour	5,142
	8-hour	4,597
PM ₁₀	24-hour	68.7
	Annual	28
O ₃	1-hour	179
NO ₂	Annual	36.7
SO ₂	3-hour	26
	24-hour	10
	Annual	4

1.5 Ozone Increment Analysis

Screening level ozone impacts were estimated in accordance with the 1988 EPA document “VOC/NO_x Point Source Screening Tables, Research Triangle Park, NC” by R.D. Scheffe. The Scheffe Ozone Screening Method uses the output from a number of scenarios simulated by the Reactive Plume Model, Version II (RPM-II) to calculate the ozone increase above the ambient ozone concentration. Maximum Non-Methane Organic Carbon (NMOC) and NO_x emissions were used for the basis of screening. Table 1 shows total facility-wide emissions of NMOC to be 149.63 tons/year (tpy) and facility-wide NO_x emissions as 95.12 tpy. The ratio of NMOC/NO_x is 1.6, so values from the far right column (<5) of the VOC/NO_x Point Source Screening Tables (Scheffe, 1988, Table 6 here) are used to perform a linear interpolation to determine the rural-based ozone increment in parts per hundred million (pphm) as a function of NMOC emissions and NMOC/NO_x ratios.

Table 6: Rural-Based Ozone Increment (pphm) as a Function of NMOC Emissions and NMOC/NOx Ratios

NMOC Emissions (tons/yr)	NMOC/NO _x TONS NMOC/TONS NO _x (PPMC/PPM)		
		5.2 - 20.7	< 5.2
	(> 20) (COL 1)	(5 - 20) (COL 2)	(<5) (COL 3)
50	0.4	0.4	1.1
75	0.4	0.4	1.2
100	0.4	0.5	1.4
300	0.8	1.0	1.7
500	1.1	1.4	1.9
750	1.6	1.9	2.3
1,000	2.0	2.4	2.7
1,500	2.7	3.0	3.3
2,000	3.4	3.8	3.7
3,000	4.8	5.2	4.3
5,000	7.0	7.5	4.8
7,500	9.8	10.1	5.1
10,000	12.2	12.9	5.4

The ozone increment from VOC emission for this facility is 1.47 ppmh or 29.4 µg/m³ at ambient conditions (20°C, 1 atm).

1.6 Results

The facility impacts as determined by dispersion modeling or screening analysis were added to the background concentration for comparison to the AAQS for all pollutants. The maximum ambient impact concentrations are presented in Table 7 and compared to the appropriate standard for all pollutants.

Table 7: Modeled Impact Results and Comparison to Standards

Pollutant	Averaging Time	H1H		H1H		
		Concentration ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	+Background ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)	Below Standard
PM ₁₀	24-hour	30.27 (20.28)**	68.70	98.97	150	Yes
	Annual	2.44	28.00	30.44	50	Yes
NO ₂ *	Annual	1.08	36.70	37.78	100	Yes
SO ₂	3-hour	22.95	26.00	48.95	1,300	Yes
	24-hour	6.78	10.00	16.78	365	Yes
	Annual	0.55	4.00	4.55	80	Yes
CO	1-hour	2,374.83	5,142.00	7,516.83	40,000	Yes
	8-hour	632.44	4,597.00	5,229.44	7,000	Yes
O ₃	1-hour	29.42	179.00	208.42	235	Yes

*For evaluating the annual NO₂ concentrations, NO₂ is based on 75 percent of the NO_x impacts.

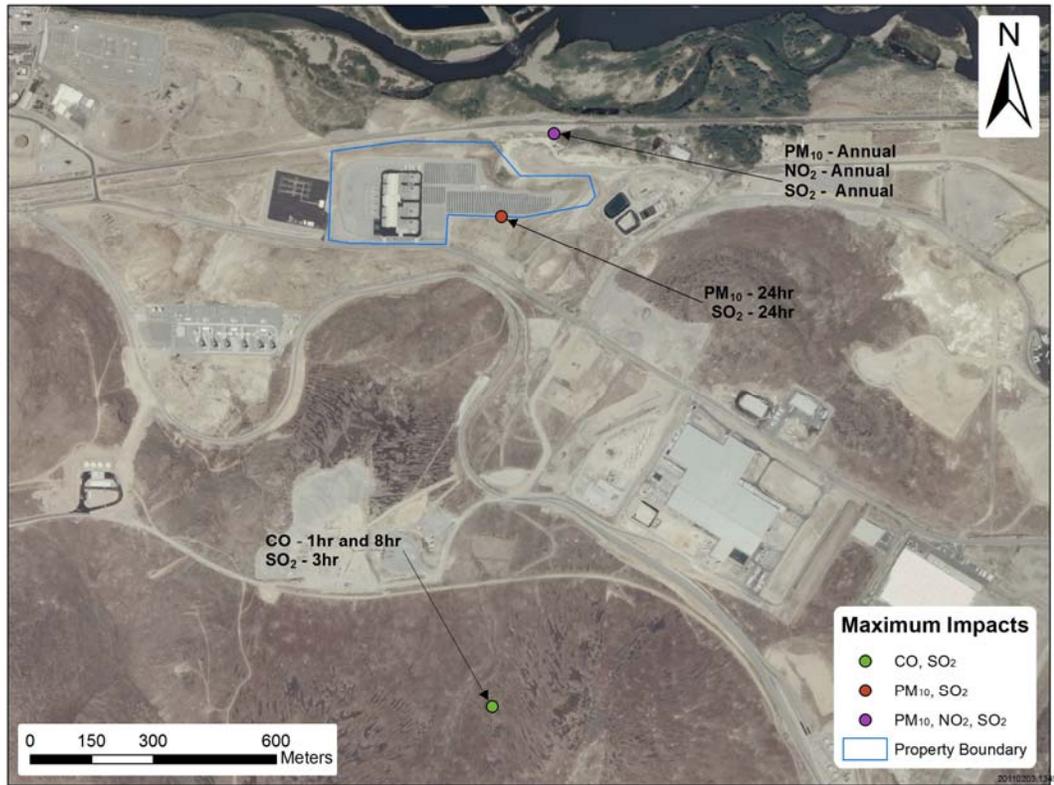
** The High Second High 24-hour PM₁₀ impact.

The sum of the facility's High First High (H1H) impact and the background concentration is below the AAQS for all pollutants and averaging times. The maximum impact locations are summarized in Table 8 and shown in Figure 5.

Table 8: Maximum Impact Locations and Dates

Pollutant	Averaging Time	H1H		Date
		Concentration ($\mu\text{g}/\text{m}^3$)	Location (UTM NAD83, Zone 11)	
PM ₁₀	24-hour	30.27	284,571.8 4,381,898.7	05/10/98
	Annual	2.44	284,700.0 4,382,100.0	1998
NO ₂	Annual	1.08	284,700.0 4,382,100.0	1998
SO ₂	3-hour	22.95	284,540.7 4,382,078.5	07/28/99
	24-hour	6.78	284,571.8 4,381,898.7	05/10/98
	Annual	0.55	284,700.0 4,382,100.0	1998
CO	1-hour	2,374.83	284,550.0 4,380,700.0	12/04/00
	8-hour	632.44	284,550.0 4,380,700.0	12/04/00

Figure 5: Locations of Maximum Modeled Impacts



All AERMOD and BPIP input and output files are provided electronically with this report.

Appendix 10

APPLICATION CERTIFICATION

Please complete the certification checklist for all forms and information provided in your application submittal. The responsible official must sign and date the application certification found in Appendix 9. *If the application is signed by a person other than the responsible official, as defined in NAC 445B.156, the application will be returned as incomplete.*

Note: According to NAC 445B.156, **Responsible Official** means:

1. For a corporation:
 - (a) A president;
 - (b) A vice president in charge of a principal business function;
 - (c) A secretary;
 - (d) A treasurer; or
 - (e) An authorized representative of such a person who is responsible for the overall operation of the facility and who is designated in writing by the officer of the corporation and approved in advance by the director.
2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
3. For a municipality or a state, federal or other public agency: a ranking elected official or a principal executive officer, including, for a federal agency, a chief executive officer who has responsibility for the overall operations of a principal geographic unit of the agency.
4. For an affected source: the designated representative or his alternate, as defined in 42 U.S. C. §7651 a (26).

APPLICATION CERTIFICATION

Certification of application content consisting of the following:

(Please check each of the appropriate boxes to indicate the information provided in your application submittal)

General Company Information

General Company Information Form

Emission Unit Application Forms (Appendix 1)

Industrial Process Application Form(s)

Combustion Equipment Application Form(s)

Storage Silos Application Form(s)

Liquid Storage Tank Application Form(s)

Surface Area Disturbance Form(s)

Insignificant Emissions Unit Information (Appendix 2)

Insignificant Emissions Unit Information Form(s)

Facility-Wide Applicable Requirements (Appendix 3)

Table 1 - Facility-Wide Applicable Requirements

Streamlining and Shield Allowance (Appendix 4)

Streamlining Demonstration

Facility-Wide Potential To Emit Tables (Appendix 5)

Table 1 - Facility-Wide Potential To Emit

Table 2 - Insignificant Activities Potential To Emit

Detailed Emissions Calculations (Appendix 6)

Detailed Emissions Calculations Provided

Emissions Cap Information (Appendix 7)

Emissions Cap Information Provided

Process Narrative, Process Flow Diagram, Plot Plan, Map, Dust Control Plan (Appendix 8)

Process Narrative Provided

Flow Diagram Provided

Plot Plan Provided

Map Provided

Dust Control Plan Provided

Dispersion Modelling Files (Appendix 9)

Dispersion Modeling Provided

Application Certification (Appendix 10)

Application Certification

Additional Information Requested by the Director

Any Additional Information Required by the Director – **additional information will be provided upon requested.**

PLEASE NOTE THE FOLLOWING REQUIREMENTS WHICH APPLY TO PERMIT APPLICANTS DURING THE APPLICATION PROCESS:

- A. A permit applicant must submit supplementary facts or corrected information upon discovery [NAC 445B.297.1(b)].
- B. A permit applicant is required to provide any additional information which the Director requests in writing within the time specified in the Director's request [NAC 445B.297.1(c)].
- C. Submission of fraudulent data or other information may result in prosecution for an alleged criminal offense (NRS 445B.470).

CERTIFICATION: I certify that, based on information and belief formed after reasonable inquiry, the statements contained in this application are true, accurate and complete.



Signature of Responsible Official

Larry Morasse, General Manager – Western 102 Plant

Print or Type Name and Title

Date

February 14, 2011

ATTACHMENT 1

**CONTROL MONITORING
PLAN**

CONTENTS

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1.2.2 <i>Determination of Control Malfunctions</i>	5
1.3 Catalytic Oxidizer.....	6
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1.3.2 <i>Determination of Control Malfunctions</i>	6

ABBREVIATIONS AND ACRONYMS

CO	Carbon Monoxide
HAP	Hazardous Air Pollutants
NO _x	Nitrogen Oxides
SCR	Selective Catalytic Reduction
VOC	Volatile Organic Compounds

1.0 CONTROL MONITORING PLAN

1.1 Exemption from 40 CFR 64

Potential pre-control device emissions of NO_x, CO and formaldehyde from each engine are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. However, Class I Air Quality Operating Permit No. AP4911-2189 (a part 70 permit) specifies a continuous compliance determination method for the NO_x, CO and formaldehyde emission limitations. Therefore, each engine is exempt from CAM per 40 CFR § 64.3(b)(vi).

The continuous monitoring for demonstration of compliance with the NO_x, CO and formaldehyde emission limitations are described in the following control monitoring plan for the selective catalytic reduction (SCR) system and the catalytic oxidation system. This plan is based on the existing control requirements in Class I Air Quality Operating Permit No. AP4911-2189.

1.2 Selective Catalytic Reduction

A Selective Catalytic Reduction (SCR) system has been installed on each engine to control NO_x emissions. Class I Air Quality Operating Permit No. AP4911-2189 requires the following continuous monitoring for demonstration of compliance with the NO_x emission limitation for each of these engines:

The Permittee, upon issuance of this Operating Permit to Construct will:

- (1) Install, calibrate, operate and maintain a temperature gauge to continuously record the temperature (in Fahrenheit or Celsius) of the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the temperature of the SCR catalyst bed of S2.001 through S2.014 each.
- (2) Install, calibrate, operate and maintain a flow indicator to continuously record the urea/ammonia sent to the SCR catalyst bed. The gauge will be installed at an appropriate location to accurately and continuously measure the urea/ammonia sent to the SCR catalyst of S2.001 through S2.014 each.
- (3) Configure, operate and maintain the SCR monitoring computer systems and engine computer systems for S2.001 through S2.014 each to:
 - i. Automatically record and alert if the ammonia/urea injection is not within manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions for the SCR system using the flow indicator required in A.4.b.(3) of this Section. The alert shall include an alarm that requires the Permittee's response to de-activate the alarm.

- ii. Automatically record and alert if the catalyst bed temperature is not within the manufacturer's specifications as required to achieve manufacturer's guaranteed emission reductions for the SCR system using the gauge required in A.4.b.(2) of this Section. The alert shall include an alarm that requires the Permittee's response to deactivate the alarm.
- iii. Should either the urea/ammonia alarm or catalyst bed temperature alarm be activated the Permittee shall investigate the alarm within 1-hour from the time that the alarm notice began and record the alarm event within 24-hours. Record of the alarm event shall include the corresponding alert message, cause of the alarm, date, time and course of remediation.

Data collection, recordkeeping, and the method for determining a control malfunction are described in the following sections.

1.2.1 Data Collection and Recordkeeping

Instantaneous readings of the catalyst bed temperature and urea/ammonia injection rate are collected and recorded every 5 minutes. In a contemporaneous log, the following data is recorded:

- The total daily amount urea/ammonia injection in gallons.
- The total daily hours of operation.
- The hourly average amount of urea/ammonia injection rate in gallons per hour calculated from the two items above.
- The temperature and urea/ammonia alert messages, cause of the alarm, date, time and course of remediation.

1.2.2 Determination of Control Malfunctions

Class I Air Quality Operating Permit No. AP4911-2189 requires the following:

1. The catalyst bed of each SCR shall be operated at a temperature range identified by the manufacturer.
2. Each SCR shall utilize urea/ammonia injection into the SCR at a volume specified and calibrated by the manufacturer.

A control malfunction (i.e., permit deviation) is defined as any time during engine operation (excluding startups) the catalyst bed temperature or the urea/ammonia injection rate falls outside the range specified by the manufacturer.

1.3 Catalytic Oxidizer

Continuous monitoring for demonstration of compliance with the CO and formaldehyde emission limitations is as follows:

A catalytic oxidation system has been installed on each engine to control CO, VOC, and VOC HAP emissions (including formaldehyde). The catalytic oxidizer is located immediately downstream of the SCR catalyst. Therefore, the temperature gauge installed for the SCR catalyst also serves as the temperature gauge for the catalytic oxidizer. Class I Air Quality Operating Permit No. AP4911-2189 requires continuous monitoring of the inlet temperature to the two catalyst beds, and automatic alerts if the temperature falls outside the manufacturer's specified range. See Section 1.2.

Data collection and recordkeeping requirements and the method for determining a control malfunction are described in the following sections.

1.3.1 Data Collection and Recordkeeping

Instantaneous readings of the catalyst bed temperature are collected and recorded every 5 minutes.

1.3.2 Determination of Control Malfunctions

Class I Air Quality Operating Permit No. AP4911-2189:

1. The catalyst bed of each oxidation catalyst shall be operated at a temperature range identified by the manufacturer.

A control malfunction (i.e., permit deviation) is defined as any time during engine operation (excluding startups) the catalyst bed temperature falls outside the range specified by the manufacturer.

ATTACHMENT 2

MANUFACTURER

GUARANTEES

Doc. id:	WDAAA322155 -
Date:	31-Mar-2004
Page:	1 (3)
Status:	APPROVED
Made/Approved:	KSA015 / ASU001

Project: DocVision, WNS-P Document Management, IN026
 Name: Flue gas emissions
 Subject: **Barrick 14x20V34SG**

This document provides stack emission data. The emissions indicated are valid for the site conditions, fuel quality and measurement methods specified in this document. Emission estimates and guarantees are based on stack test data, verified performance of control equipment and engineering calculations.

Engine: Wärtsilä 20V34SG, 720 rpm (constant speed)

Site conditions:

Altitude	1340 m	(4400 ft)
Ambient temperature, design	35 °C	(95 °F)
Relative humidity	60 %	

Gas composition:

Methane, min.	CH ₄	95.15	vol-%
Ethane, min.	C ₂ H ₆	2.27	vol-%
Propane, max	C ₃ H ₈	0.18	vol-%
i-Butane, max	C ₄ H ₁₀	0.02	vol-%
n-Butane, max	C ₄ H ₁₀	0.02	vol-%
i-Pentane, max	C ₅ H ₁₂	0.01	vol-%
n-Pentane, max	C ₅ H ₁₂	0.00	vol-%
Nitrogen	N ₂	1.85	vol-%
Carbon dioxide	CO ₂	0.47	vol-%
Hexane and higher hydro carbons, max		0.01	vol-%
Total Sulfur, max	S	5	mg/kg

No silicon and aromatic based compounds

Lubricating oil according to Wärtsilä specifications for gas engines

Flue gas emission estimates before abatement system at full steady load:

NO _x (as NO ₂)	1.329	g/kWh
CO	2.249	g/kWh
VOC (as CH ₄)	0.613	g/kWh
PM ₁₀ (dry)	0.072	g/kWh
PM ₁₀ (total)	0.139	g/kWh
Formaldehyde	0.307	g/kWh
SO ₂	0.031	g/kWh

Flue gas emission guarantees after abatement system at full steady load (i.e., emissions will be equal to or less than the following):

NO _x (as NO ₂)	max.	0.08	g/kWh
CO	max.	0.13	g/kWh
VOC (as CH ₄)	max.	0.13	g/kWh
PM ₁₀ (dry)	max.	0.072	g/kWh
PM ₁₀ (total)	max.	0.139	g/kWh
NH ₃	max.	0.07	g/kWh
Formaldehyde	max.	0.008	g/kWh
SO ₂	max.	0.031	g/kWh

Control Performance

The abatement systems are comprised of a selective catalytic reduction (SCR) system for NO_x and an oxidizing catalyst for the reduction of CO, VOC and Formaldehyde. Based on the pre-controlled emission estimates and post-controlled emission guarantees, the effective control efficiencies are as follows:

NO _x (as NO ₂)	94%
CO	94%
VOC (as CH ₄)	79%
Formaldehyde	97%

These effective control efficiencies are within the demonstrated performance capabilities of the control systems. Note that these effective or calculated control efficiencies are based on estimated uncontrolled emission levels which will vary based on specific operating conditions. The actual emission control performance may vary in a corresponding manner. For compliance purposes, the focus will be on ensuring compliance with the emissions exiting the control systems to the atmosphere. Compliance will be demonstrated through emissions stack testing and monitoring as specified by the air quality permit to be issued by the Nevada Division of Environmental Protection, Bureau of Air Pollution Control.

Measurement Methods

Oxygen (O₂)

- EPA Method 3A (USA): Determination of Oxygen and Carbon Dioxide Emissions from Stationary Sources. Or principally similar other method

Nitrogen oxides (NO_x)

- EPA Method 7E (USA): Determination of nitrogen oxides from stationary sources. Or principally similar other method

Carbon monoxide (CO)

- EPA Method 10 (USA): Determination of carbon monoxide emissions from stationary sources. Or principally similar other method

Volatile organic compounds (VOC)

• USA EPA Method 18: Measurement of gaseous organic compound emissions by gas chromatography. VOC is defined as Non Methane Non Ethane Hydrocarbons and consists of the following components: C₃H₈, C₄H₁₀, C₅H₁₂, C₆H₁₄, C₂H₄, C₃H₆, C₄H₈, C₅H₁₀ and C₆H₁₂.

Formaldehyde (HCOH)

• CTM-037 Method: Measurement of formaldehyde emissions from natural gas-fired stationary sources-acetyl acetone derivatization method. Or principally similar other method

PM₁₀ (dry)

• USA EPA Method 201A (front half): Determination of filterable PM₁₀ emissions (in-stack filter method with sizing device).

PM₁₀ (total)

Total PM₁₀ is defined as the sum of the particulate matter measured with EPA 201A and 202 methods

- USA EPA Method 201A (front half): Determination of filterable PM₁₀ emissions (in-stack filter method with sizing device).
- USA EPA Method 202 Determination of condensable particulate matter from stationary sources.

Sulphur dioxide (SO₂)

• ISO/CD 8178-1 Chapter 7.4.3.7: Calculation of SO₂ emissions from sulphur content in Fuel. Or principally similar other methods.

HAP

• Measured HAP's are formaldehyde, acetaldehyde, acrolein and methanol as defined in USA EPA "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines: Signed Final Rule" February 2004.

Measurement principles

The flue gas stack emission measurements will be performed at 100% load in steady state operating condition of the engine. Prior to the start of the flue gas emission (stack) measurements, the engine shall be operated for a sufficiently long period of time (2h) at full engine load in order to obtain steady state conditions.

Sufficiently long measurement sampling periods and number of samples shall be taken in order to get statistically representative results. A monitoring time of 1-3 hours per stack is required for the determination of the gaseous components. To ensure accurate particulate matter (PM₁₀) emission results 3 samples are to be collected with a minimum sampling time of 1 hour per sample. The average values based on the individual PM samples and on the monitoring periods of gaseous components shall be used for the verification with the guarantee values.

ATTACHMENT 3

**AERMOD MODELING
FILES (CD-ROM)**