

## **FACILITY PERMIT TO OPERATE**

**BOWERMAN POWER LFG, LLC  
11002 BEE CANYON ACCESS RD  
IRVINE, CA 92602**

### **NOTICE**

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.  
EXECUTIVE OFFICER

By \_\_\_\_\_  
Mohsen Nazemi, P.E.  
Deputy Executive Officer  
Engineering & Compliance

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### TABLE OF CONTENTS

Section	Description	Revision #	Date Issued
A	Facility Information	DRAFT	12/24/2009
B	RECLAIM Annual Emission Allocation	DRAFT	12/24/2009
C	Facility Plot Plan	TO BE DEVELOPED	
D	Facility Description and Equipment Specific Conditions	DRAFT	12/24/2009
E	Administrative Conditions	DRAFT	12/24/2009
F	RECLAIM Monitoring and Source Testing Requirements	DRAFT	12/24/2009
G	Recordkeeping and Reporting Requirements for RECLAIM Sources	DRAFT	12/24/2009
H	Permit To Construct and Temporary Permit to Operate	DRAFT	12/24/2009
I	Compliance Plans & Schedules	DRAFT	12/24/2009
J	Air Toxics	DRAFT	12/24/2009
K	Title V Administration	DRAFT	12/24/2009
 <b>Appendix</b>			
A	NOx and SOx Emitting Equipment Exempt From Written Permit Pursuant to Rule 219	DRAFT	12/24/2009
B	Rule Emission Limits	DRAFT	12/24/2009

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION A: FACILITY INFORMATION

LEGAL OWNER &/OR OPERATOR: BOWERMAN POWER LFG, LLC

LEGAL OPERATOR (if different than owner):

EQUIPMENT LOCATION: 11002 BEE CANYON ACCESS RD  
IRVINE, CA 92602

MAILING ADDRESS: 680 ANDERSON DR  
PITTSBURGH, PA 15220

RESPONSIBLE OFFICIAL: CHRISTOPHER A DAVIIS

TITLE: VICE PRESIDENT

TELEPHONE NUMBER: (412) 747-8719

CONTACT PERSON: RENEE VOYT

TITLE: ENV PROGRAM MANAGER

TELEPHONE NUMBER: (830) 899-5867

TITLE V PERMIT ISSUED: December 24, 2009

TITLE V PERMIT EXPIRATION DATE: December 23, 2014

TITLE V	RECLAIM
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YES	NOx: NO
	SOx: NO
	CYCLE: 0
	ZONE: COASTAL

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**SECTION B: RECLAIM Annual Emission Allocation**

**NOT APPLICABLE**

**FACILITY PERMIT TO OPERATE  
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**SECTION C: FACILITY PLOT PLAN**

**(TO BE DEVELOPED)**

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS**

NONE

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **SECTION E: ADMINISTRATIVE CONDITIONS**

The operating conditions in this section shall apply to all permitted equipment at this facility unless superseded by condition(s) listed elsewhere in this permit.

1. The permit shall remain effective unless this permit is suspended, revoked, modified, reissued, denied, or it is expired for nonpayment of permit processing or annual operating fees. [201, 203, 209, 301]
  - a. The permit must be renewed annually by paying annual operating fees, and the permit shall expire if annual operating fees are not paid pursuant to requirements of Rule 301(d). [301(d)]
  - b. The Permit to Construct listed in Section H shall expire one year from the Permit to Construct issuance date, unless a Permit to Construct extension has been granted by the Executive Officer or unless the equipment has been constructed and the operator has notified the Executive Officer prior to the operation of the equipment, in which case the Permit to Construct serves as a temporary Permit to Operate. [202, 205]
  - c. The Title V permit shall expire as specified under Section K of the Title V permit. The permit expiration date of the Title V facility permit does not supercede the requirements of Rule 205. [205, 3004]
2. The operator shall maintain all equipment in such a manner that ensures proper operation of the equipment. [204]
3. This permit does not authorize the emissions of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules and Regulations of the AQMD. This permit cannot be considered as permission to violate existing laws, ordinances, regulations, or statutes of other governmental agencies. [204]
4. The operator shall not use equipment identified in this facility permit as being connected to air pollution control equipment unless they are so vented to the identified air pollution control equipment which is in full use and which has been included in this permit. [204]
5. The operator shall not use any equipment having air pollution control device(s) incorporated within the equipment unless the air pollution control device is in full operation. [204]
6. The operator shall maintain records to demonstrate compliance with rules or permit conditions that limit equipment operating parameters, or the type or quantity of material processed. These records shall be made available to AQMD personnel upon request and be maintained for at least five years. [204]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION E: ADMINISTRATIVE CONDITIONS

7. The operator shall maintain and operate all equipment to ensure compliance with all emission limits as specified in this facility permit. Compliance with emission limits shall be determined according to the following specifications, unless otherwise specified by AQMD rules or permit conditions: [204]
  - a. For internal combustion engines and gas turbines, measured concentrations shall be corrected to 15 percent stack-gas oxygen content on a dry basis and be averaged over a period of 15 consecutive minutes; [1110.2, 1134]
  - b. For other combustion devices, measured concentrations shall be corrected to 3 percent stack-gas oxygen content on a dry basis and be averaged over a period of 15 consecutive minutes; [1146, 1146.1, 204]
  - c. For non-combustion sources, compliance with emission limits shall be determined and averaged over a period of 60 minutes; [204]
  - d. For the purpose of determining compliance with Rule 407, carbon monoxide (CO) shall be measured on a dry basis and be averaged over 15 consecutive minutes, and sulfur compounds which would exist as liquid or gas at standard conditions shall be calculated as sulfur dioxide (SO<sub>2</sub>) and be averaged over 15 consecutive minutes; [407]
  - e. For the purpose of determining compliance with Rule 409, combustion contaminant emission measurements shall be corrected to 12 percent of carbon dioxide (CO<sub>2</sub>) at standard conditions and averaged over a minimum of 15 consecutive minutes. [409]
  - f. For the purpose of determining compliance with Rule 475, combustion contaminant emission measurements shall be corrected to 3 percent of oxygen (O<sub>2</sub>) at standard conditions and averaged over 15 consecutive minutes or any other averaging time specified by the Executive Officer. [475]
  
8. The operator shall, when a source test is required by AQMD, provide a source test protocol to AQMD no later than 60 days before the proposed test date. The test shall not commence until the protocol is approved by AQMD. The test protocol shall contain the following information: [204, 304]
  - a. Brief description of the equipment tested.
  - b. Brief process description, including maximum and normal operating temperatures, pressures, throughput, etc.
  - c. Operating conditions under which the test will be performed.
  - d. Method of measuring operating parameters, such as fuel rate and process weight. Process schematic diagram showing the ports and sampling locations, including the dimensions of the ducts and stacks at the sampling locations, and distances of flow disturbances, (e.g. elbows, tees, fans, dampers) from the sampling locations (upstream and downstream)

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION E: ADMINISTRATIVE CONDITIONS

- e. Brief description of sampling and analytical methods used to measure each pollutant, temperature, flow rates, and moisture.
  - f. Description of calibration and quality assurance procedures.
  - g. Determination that the testing laboratory qualifies as an "independent testing laboratory" under Rule 304 (conflict of interest).
9. The operator shall submit a report no later than 60 days after conducting a source test, unless otherwise required by AQMD rules or equipment-specific conditions. The report shall contain the following information: [204]
- a. The results of the source test.
  - b. Brief description of the equipment tested.
  - c. Operating conditions under which the test was performed.
  - d. Method of measuring operating parameters, such as fuel rate and process weight. Process schematic diagram showing the ports and sampling locations, including the dimensions of the ducts and stacks at the sampling locations, and distances of flow disturbances, (e.g. elbows, tees, fans, dampers) from the sampling locations (upstream and downstream)
  - e. Field and laboratory data forms, strip charts and analyses.
  - f. Calculations for volumetric flow rates, emission rates, control efficiency, and overall control efficiency.
10. The operator shall, when a source test is required, provide and maintain facilities for sampling and testing. These facilities shall comply with the requirements of AQMD Source Test Method 1.1 and 1.2. [217]
11. Whenever required to submit a written report, notification or other submittal to the Executive Officer, AQMD, or the District, the operator shall mail or deliver the material to: Deputy Executive Officer, Engineering and Compliance, AQMD, 21865 E. Copley Drive, Diamond Bar, CA 91765-4182. [204]

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**SECTION F: RECLAIM Monitoring and Source Testing Requirements**

**NOT APPLICABLE**

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**SECTION G: Recordkeeping and Reporting Requirements for RECLAIM Sources**

**NOT APPLICABLE**

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE**

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.



## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **FACILITY WIDE CONDITION (S)**

**Condition(s):**

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:
  - A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGLEMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
  - B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (a) OF THIS CONDITION.  
[RULE 401]
2. THE OPERATOR SHALL NOT USE LANDFILL GAS CONTAINING SULFUR COMPOUNDS IN EXCESS OF 150 PPMV CALCULATED AS HYDROGEN SULFIDE AVERAGED DAILY.  
[RULE 431.1]
3. THE OPERATOR SHALL NOT USE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 0.05 PERCENT BY WEIGHT. ON OR AFTER JUNE 1, 2004, A PERSON SHALL NOT PURCHASE ANY DIESEL FUEL FOR STATIONARY SOURCE APPLICATION IN THE DISTRICT, UNLESS THE FUEL IS LOW SULFUR DIESEL FOR WHICH THE SULFUR CONTENT SHALL NOT EXCEED 15 PPM BY WEIGHT AS SUPPLIED BY THE SUPPLIER.  
[RULE 431.2]
4. ACCIDENTAL RELEASE PREVENTION REQUIREMENTS OF SECTION 112( R )(7):

THE OPERATOR SHALL COMPLY WITH THE ACCIDENTAL RELEASE PREVENTION REQUIREMENTS PURSUANT TO 40 CFR PART 68 AND SHALL SUBMIT TO THE EXECUTIVE OFFICER, AS PART OF ANNUAL COMPLIANCE CERTIFICATION, A STATEMENT THAT CERTIFIES COMPLIANCE WITH ALL THE REQUIREMENTS OF 40 CFR PART 68, INCLUDING THE REGISTRATION AND SUBMISSION OF A RISK MANAGEMENT PLAN (RMP).

THE OPERATOR SHALL SUBMIT ANY ADDITIONAL RELEVANT INFORMATION REQUESTED BY THE EXECUTIVE OFFICER OR DESIGNATED AGENCY.  
[40 CFR68-ACCIDENTAL RELEASE PREVENTION]
5. THE OWNER OR OPERATOR OF THE MUNICIPAL SOLID WASTE LANDFILL GAS (LFG) COLLECTION, CONTROL, OR TREATMENT SYSTEM SHALL OPERATE ALL STATIONARY EQUIPMENT IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF EPA 40 CFR PART 60, SUBPART WWW, SUCH AS DESIGN SPECIFICATIONS, EQUIPMENT PERFORMANCE, EMISSIONS STANDARDS, MONITORING OF OPERATIONS, REPORTING AND RECORD KEEPING REQUIREMENTS, ETC.  
[EPA RULE 40 CFR 60 SUBPART WWW]

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

6. THE OWNER OR OPERATOR OF THE MUNICIPAL SOLID WASTE LANDFILL GAS (LFG) COLLECTION, CONTROL, OR TREATMENT SYSTEM SHALL OPERATE ALL STATIONARY EQUIPMENT IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF EPA 40 CFR PART 63, SUBPART AAAAA, SUCH AS DESIGN SPECIFICATIONS, EQUIPMENT PERFORMANCE, EMISSIONS STANDARDS, MONITORING OF OPERATIONS, REPORTING AND RECORD KEEPING REQUIREMENTS, ETC.  
[GASEOUS EMISSIONS 40 CFR 63 SUBPART AAAAA]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### PERMIT TO CONSTRUCT

A/N 489110  
Granted as of

#### Equipment Description:

LANDFILL GAS (LFG) TREATMENT AND COMPRESSION SYSTEM, 9,000 SCFM TOTAL MAXIMUM CAPACITY, CONSISTING OF;

1. LANDFILL GAS SUPPLY FROM GAS COLLECTION HEADER (FRANK R. BOWERMAN LANDFILL).
2. LIQUID/GAS SEPARATION KNOCK-OUT POT.
3. MULTIPLE LANDFILL GAS BLOWERS, CAPABLE OF PRODUCING UP TO 9,000 SCFM AT DISCHARGE PRESSURE SUFFICIENT FOR THE GES BIOGAS CHILLING AND TREATMENT SYSTEM.
4. GES BIOGAS CHILLING PACKAGE WITH MODEL PCW 650 CHILLER, HEAT EXCHANGER, AND A LIQUID/GAS SEPARATOR OR EQUIVALENT.
5. INTERMEDIATE COALESCING FILTER, WITH MINIMUM 1 MICRON FILTERING ELEMENT.
6. SILOXANE ADSORPTION SYSTEM CONSISTING OF;  
  
FOUR (4) BULK SILOXANE ADSORPTION SYSTEMS, MODEL GES 1500 (DUPLEX) PRESSURE VESSELS OR EQUIVALENT, IN PARALLEL, EACH WITH PROPRIETARY BLEND OF SILICA GEL AND/OR ACTIVATED ALUMINA MEDIA, 0.01 MICRON COALESCING PRE-FILTER, AN ELECTRIC HEATER. MINIMUM 168 KW, WITH INTEGRAL TEMPERATURE SWING ADSORPTION (TSA) REGENERATION SYSTEM, AND ONE MICRON PARTICULATE FILTER.  
  
MAXIMUM 1900 SCFM REGENERATIVE OFF-GAS, VENTED TO THE ENCLOSED LANDFILL GAS FLARE (EXISTING FLARE AT F. R. BOWERMAN LANDFILL FACILITY).
7. FIVE (5) GAS COMPRESSORS TO FUEL THE GAS TURBINES, EACH VILTER SINGLE SCREW OR EQUIVALENT, UP TO 800 HP AND UP TO 3000 SCFM, EQUIPPED WITH A COALESCING FILTER (MINIMUM 1 MICRON FILTERING ELEMENT), AND WITH AMBIENT AIR COOLERS FOR FUEL GAS COOLING.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED. UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL LANDFILL GAS (LFG) TREATMENT AND COMPRESSION SYSTEM P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE, TYPE OF ADSORBENT MEDIA AND ADSORBERS' ARRANGEMENT AND MAXIMUM CAPACITY) PRIOR TO THE INSTALLATION OF THE EQUIPMENT.  
[RULE 204]
5. THE LFG TREATMENT SYSTEM SHALL BE OPERATED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF EPA 40 CFR PART 60, SUBPART WWW, SUCH AS DESIGN SPECIFICATIONS FOR FILTRATION, DE-WATERING, COMPRESSION SYSTEM AND EQUIPMENT PERFORMANCE AND MONITORING REQUIREMENTS.  
[40 CFR PART 60, SUBPART WWW]
6. DURING AN ADSORBENT REGENERATION MODE, THE OFF-GAS FROM THE ADSORBER TRAIN SHALL BE VENTED AT ALL TIMES TO AN AIR POLLUTION CONTROL SYSTEM (ENCLOSED FLARE) WHICH IS IN FULL OPERATION AND HAS A VALID PERMIT TO CONSTRUCT/ OPERATE ISSUED BY THE SCAQMD.  
[RULE 1303(a) (1) - BACT]
7. WHENEVER THE LFG TREATMENT SYSTEM IS IN OPERATION, THE TOTAL FLOW OF LFG TREATED AND REGENERATION OFF-GAS FLOW RATE (SCFM) SHALL BE MEASURED AND RECORDED.  
[RULE 3004 (a) (4)]
8. SAMPLING PORTS, FOR EACH ADSORBER TRAIN OF THE LANDFILL GAS TREATMENT SYSTEM, SHALL BE PROVIDED IN THE INLET AND OUTLET LINE, AND THE ADSORBER'S REGENERATION OFF-GAS LINE.  
[RULE 204]
9. GRAB SAMPLES SHALL BE COLLECTED AT THE INLET AND OUTLET OF THE LFG TREATMENT SYSTEM AND REGENERATION OFF-GAS LINE, AT INITIAL START-UP AND ON A MONTHLY BASIS FOR THE FIRST THREE MONTHS, AND ON A QUARTERLY BASIS THEREAFTER. GRAB SAMPLES SHALL BE ANALYZED FOR CONCENTRATION (PPMV) OF TOTAL SILOXANE COMPOUNDS, TOTAL NON METHANE ORGANIC COMPOUNDS (TNMOC) AND TOTAL SULFUR AS H<sub>2</sub>S, USING EPA, CARB, OR DISTRICT APPROVED METHODS. RESULTS SHALL BE RECORDED AND MAINTAINED.  
[RULE 204, 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

10. THE LFG TREATMENT SYSTEM SHALL BE OPERATED AS PER MANUFACTURER'S RECOMMENDED OPERATING SPECIFICATIONS AND THE FOLLOWING PARAMETERS SHALL BE MONITORED AND RECORDED ON A DAILY BASIS,

TEMPERATURE (INLET AND OUTLET LFG)  
% MOISTURE (INLET AND OUTLET LFG)  
% OXYGEN (INLET LFG)  
PRESSURE DROP ACROSS THE ADSORBER TRAIN, INCHES OF WATER COLUMN.  
ADSORBENT MEDIA REGENERATION TEMPERATURE  
BREAKTHROUGH FREQUENCY (DAYS)  
ADSORBENT REGENERATION DURATION (HOURS OR DAYS)

[RULE 204, 3004 (a) (4), 40 CFR PART 60, SUBPART WWW]

11. WITHIN 180 DAYS OF LFG TREATMENT SYSTEM OPERATION, THE OWNER OR OPERATOR SHALL SUBMIT TO AQMD A COMPLETE REPORT WITH RESULTS, SUCH AS TOTAL SILOXANES AND OTHER IMPURITIES REMOVAL EFFICIENCY, ESTIMATED MEDIA LIFE, BREAKTHROUGH EFFICIENCY, REGENERATION CYCLE, PROCESS PARAMETERS MEASURED AND MONITORED, ETC.

REPORT SHALL BE SENT TO: SCAQMD, REFINERY AND WASTE MANAGEMENT PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THIS PERMIT.

[RULE 204]

12. ALL RECORDS SHALL BE KEPT AND MAINTAINED FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **PERMIT TO CONSTRUCT**

**A/N 489111  
Granted as of**

#### **Equipment Description:**

#### **LANDFILL GAS CONTROL AND GAS-TO-ENERGY SYSTEM CONSISTING OF:**

1. PRETREATED LANDFILL GAS (LFG) SUPPLY.
2. GAS TURBINE, NO. 1, SOLAR, MERCURY 50 OR EQUIVALENT, LANDFILL GAS (LFG) FIRED, MAXIMUM 51.78 MILLION BTU PER HOUR HEAT INPUT RATING (HHV), BRAYTON CYCLE WITH RECUPERATOR, WITH ELECTRIC START MOTOR, TEN-STAGE AXIAL FLOW COMPRESSOR, ULTRA LEAN PREMIX (ULP) ANNULAR COMBUSTOR, AUTOMATIC PROPANE PILOT AND FUEL CONTROL SYSTEM, PROGRAMMABLE CONTROLLER, AND DRIVING A 4.6 MEGAWATT (MW) ELECTRIC GENERATOR.
3. EXHAUST STACK, 3'- 3" DIA. X 25' HIGH.

#### **Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS EQUIPMENT SHALL BE FIRED ONLY WITH LANDFILL GAS DURING NORMAL OPERATION. PROPANE GAS MAY BE USED DURING EQUIPMENT START UP NOT TO EXCEED 60 MINUTES, WHEN THE LFG QUALITY IS LOWER THAN 400 (WOBBE INDEX).  
[RULE 204]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

5. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL GAS TURBINE DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.  
[RULE 204]
6. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED AND MAINTAINED IN THE LANDFILL GAS SUPPLY LINE TO THE GAS TURBINE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BEING BURNED.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4).]
7. WEEKLY READINGS OF THE BTU CONTENT OF LANDFILL GAS AT THE INLET TO THE GAS TURBINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 3004 (a) (4)]
8. THE TOTAL HEAT INPUT OF LANDFILL GAS BURNED IN THE GAS TURBINE SHALL NOT EXCEED 51.78 MM BTU PER HOUR (HHV @ 500 BTU/SCF). A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THE GAS TURBINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST WEEKLY BTU CONTENT READING.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
9. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]
10. THE OWNER OR OPERATOR SHALL PROVIDE 100% BACKUP CONTROL. THE LANDFILL GAS NOT UTILIZED BY THIS EQUIPMENT SHALL BE DIRECTED TO THE FLARE FOR COMBUSTION OR ANY OTHER COMBUSTION OR PROCESSING FACILITY, WHICH IS IN FULL USE, CAN ADEQUATELY PROCESS THE VOLUME OF GAS COLLECTED AND HAS BEEN ISSUED A VALID PERMIT BY THE SCAQMD.  
[RULE 1303 (a) (1)-BACT]
11. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW LANDFILL GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF FUEL GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF REFINERY AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR AFTER OCCURRENCE, OR WITHIN ONE HOUR OF THE TIME THE OPERATING PERSONNEL KNEW OR REASONABLY SHOULD HAVE KNOWN OF THE OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.  
[RULE 402, 430]
12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH THE SCAQMD RULE 431.1.  
[RULE 431.1]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

13. ADEQUATE NUMBER OF SAMPLING PORTS AND WELDED NIPPLES WITH CAPS, WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED IN THE EXHAUST STACK IN ACCORDANCE WITH RULE 217 AND SCAQMD'S APPROVAL.  
[RULE 217]
  
14. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), APPROVED BY THE EXECUTIVE OFFICER, SHALL BE INSTALLED, OPERATED AND MAINTAINED TO MEASURE THE EXHAUST CONCENTRATION FOR NO<sub>x</sub> AND O<sub>2</sub>, ON A DRY BASIS. IN ADDITION, THE SYSTEM SHALL CONVERT THE ACTUAL NO<sub>x</sub> CONCENTRATION TO A CORRECTED NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND CONTINUOUSLY RECORD THE STACK NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub>. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218. PRIOR TO INSTALLATION, THIS MONITORING SYSTEM SHALL BE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.  
[RULE 218, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
  
15. WITHIN 180 DAYS AFTER INITIAL START-UP, AND ANNUALLY (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST) THEREAFTER, THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM MANAGER, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET LANDFILL GAS AND THE GAS TURBINE EXHAUST FOR:
  - A. METHANE AND TOTAL NON-METHANE HYDROCARBONS
  - B. CARBON MONOXIDE (EXHAUST ONLY)
  - C. OXIDES OF NITROGEN (EXHAUST ONLY)
  - D. CARBON DIOXIDE
  - E. TOTAL PARTICULATES, REPORTED AS PM10/PM2.5 (EXHAUST ONLY)
  - F. C1 THROUGH C3 SULFUR COMPOUNDS (SPECIATED, INLET ONLY)
  - G. FORMALDEHYDE (EXHAUST ONLY)
  - H. TOXIC AIR CONTAMINANTS INCLUDING, BUT NOT LIMITED TO, BENZENE, CHLOROBENZENE, 1, 2-DICHLOROETHANE, 1, 1-DICHLOROETHENE, DICHLOROMETHANE, TETRACHLOROETHYLENE, TETRA CHLOROMETHANE, TOLUENE, 1, 1, 1-TRICHLOROETHANE, TRICHLOROETHYLENE, TRICHLOROMETHANE, VINYL CHLORIDE, AND XYLENE ISOMERS.
  - I. OXYGEN AND NITROGEN
  - J. MOISTURE CONTENT
  - K. TEMPERATURE
  - L. FLOW RATE
  - M. VOLATILE ORGANIC COMPOUNDS (VOCS) CONTROL EFFICIENCY, WT% (BASED ON INLET AND EXHAUST VOCS)

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

THE REPORT SHALL ALSO PRESENT THE EMISSIONS DATA IN UNITS OF POUNDS PER HOUR (LB/HR), POUNDS PER MILLION BTU (LB/MMBTU), AND PARTS PER MILLION (PPMV) ON A DRY BASIS AT 15% O<sub>2</sub> (CO, NO<sub>x</sub>, AND TNMHC). ALSO, PROVIDE GAS TURBINE'S DEMONSTRATED EFFICIENCY AT FULL LOAD, IN BTU/KW-HR, CORRECTED TO THE HIGHER HEATING VALUE (HHV) OF THE FUEL.

[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 1401, 3004 (a) (4)]

16. DURING NORMAL OPERATION, EMISSIONS FROM THE GAS TURBINE SHALL NOT EXCEED THE FOLLOWING:

CONTAMINANT	LBS/DAY
CO	260
NO <sub>x</sub> (AS NO <sub>2</sub> )	133.7
PM <sub>10</sub> /PM <sub>2.5</sub>	26.2
TGNMOC (AS CH <sub>4</sub> )	17.3
SOX (AS SO <sub>2</sub> )	64.5

[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]

17. EMISSIONS OF OXIDES OF NITROGEN SHALL NOT EXCEED 25 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
18. EMISSIONS OF CARBON MONOXIDE SHALL NOT EXCEED 80 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
19. THE GAS TURBINE'S CO AND NO<sub>x</sub> EMISSIONS, BASED ON MEASURED AND MONITORED RESULTS (OR MANUFACTURER'S EMISSIONS TESTING METHODS UPON DISTRICT'S APPROVAL), SHALL BE USED TO ESTABLISH THE CO AND NO<sub>x</sub> LIMITS OF THE FINAL PERMIT TO OPERATE.  
[RULE 204]
20. THE OWNER OR OPERATOR SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]
21. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### Emissions And Requirements:

THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS.

22. CO: 2000 PPMV, DRY, 15 MIN. AVG., RULE 407  
CO: 80 PPMV, @ 15% O2, DRY, MAJOR SOURCE - MFGR. GUARANTEE  
NOx: 25 PPMV, @ 15% O2, DRY, MAJOR SOURCE - LAER  
NOx: 74 PPMV, @ 15% O2, DRY, NSPS, 40CFR60 SUBPART KKKK  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
ROG: 20 PPMV, AS HEXANE, @ 3% O2, DRY OR 98% (BY WT) DESTRUCTION EFFICIENCY, RULE 1150.1 & NSPS  
SOx: BASED ON 150 PPMV H2S CON. IN LFG, RULE 431.1  
SOx: 0.90 LB/MWh OR 0.06 LB/MMBTU, NSPS, 40CFR60 SUBPART KKKK.

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **PERMIT TO CONSTRUCT**

**A/N 484913  
Granted as of**

#### **Equipment Description:**

**LANDFILL GAS CONTROL AND GAS-TO-ENERGY SYSTEM CONSISTING OF:**

1. PRETREATED LANDFILL GAS (LFG) SUPPLY.
2. GAS TURBINE, NO. 2, SOLAR, MERCURY 50 OR EQUIVALENT, LANDFILL GAS (LFG) FIRED, MAXIMUM 51.78 MILLION BTU PER HOUR HEAT INPUT RATING (HHV), BRAYTON CYCLE WITH RECUPERATOR, WITH ELECTRIC START MOTOR, TEN-STAGE AXIAL FLOW COMPRESSOR, ULTRA LEAN PREMIX (ULP) ANNULAR COMBUSTOR, AUTOMATIC PROPANE PILOT AND FUEL CONTROL SYSTEM, PROGRAMMABLE CONTROLLER, AND DRIVING A 4.6 MEGAWATT (MW) ELECTRIC GENERATOR.
3. EXHAUST STACK, 3'- 3" DIA. X 25' HIGH.

#### **Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS EQUIPMENT SHALL BE FIRED ONLY WITH LANDFILL GAS DURING NORMAL OPERATION. PROPANE GAS MAY BE USED DURING EQUIPMENT START UP NOT TO EXCEED 60 MINUTES, WHEN THE LFG QUALITY IS LOWER THAN 400 (WOBBE INDEX).  
[RULE 204]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

5. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL GAS TURBINE DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.  
[RULE 204]
6. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED AND MAINTAINED IN THE LANDFILL GAS SUPPLY LINE TO THE GAS TURBINE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BEING BURNED.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4).]
7. WEEKLY READINGS OF THE BTU CONTENT OF LANDFILL GAS AT THE INLET TO THE GAS TURBINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 3004 (a) (4)]
8. THE TOTAL HEAT INPUT OF LANDFILL GAS BURNED IN THE GAS TURBINE SHALL NOT EXCEED 51.78 MM BTU PER HOUR (HHV @ 500 BTU/SCF). A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THE GAS TURBINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST WEEKLY BTU CONTENT READING.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
9. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]
10. THE OWNER OR OPERATOR SHALL PROVIDE 100% BACKUP CONTROL. THE LANDFILL GAS NOT UTILIZED BY THIS EQUIPMENT SHALL BE DIRECTED TO THE FLARE FOR COMBUSTION OR ANY OTHER COMBUSTION OR PROCESSING FACILITY, WHICH IS IN FULL USE, CAN ADEQUATELY PROCESS THE VOLUME OF GAS COLLECTED AND HAS BEEN ISSUED A VALID PERMIT BY THE SCAQMD.  
[RULE 1303 (a) (1)-BACT]
11. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW LANDFILL GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF FUEL GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF REFINERY AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR AFTER OCCURRENCE, OR WITHIN ONE HOUR OF THE TIME THE OPERATING PERSONNEL KNEW OR REASONABLY SHOULD HAVE KNOWN OF THE OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.  
[RULE 402, 430]
12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH THE SCAQMD RULE 431.1.  
[RULE 431.1]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

13. ADEQUATE NUMBER OF SAMPLING PORTS AND WELDED NIPPLES WITH CAPS, WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED IN THE EXHAUST STACK IN ACCORDANCE WITH RULE 217 AND SCAQMD'S APPROVAL.  
[RULE 217]
  
14. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), APPROVED BY THE EXECUTIVE OFFICER, SHALL BE INSTALLED, OPERATED AND MAINTAINED TO MEASURE THE EXHAUST CONCENTRATION FOR NO<sub>x</sub> AND O<sub>2</sub>, ON A DRY BASIS. IN ADDITION, THE SYSTEM SHALL CONVERT THE ACTUAL NO<sub>x</sub> CONCENTRATION TO A CORRECTED NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND CONTINUOUSLY RECORD THE STACK NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub>. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218. PRIOR TO INSTALLATION, THIS MONITORING SYSTEM SHALL BE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.  
[RULE 218, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
  
15. WITHIN 180 DAYS AFTER INITIAL START-UP, AND ANNUALLY (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST) THEREAFTER, THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM MANAGER, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET LANDFILL GAS AND THE GAS TURBINE EXHAUST FOR:
  - A. METHANE AND TOTAL NON-METHANE HYDROCARBONS
  - B. CARBON MONOXIDE (EXHAUST ONLY)
  - C. OXIDES OF NITROGEN (EXHAUST ONLY)
  - D. CARBON DIOXIDE
  - E. TOTAL PARTICULATES, REPORTED AS PM10/PM2.5 (EXHAUST ONLY)
  - F. C1 THROUGH C3 SULFUR COMPOUNDS (SPECIATED, INLET ONLY)
  - G. FORMALDEHYDE (EXHAUST ONLY)
  - H. TOXIC AIR CONTAMINANTS INCLUDING, BUT NOT LIMITED TO, BENZENE, CHLOROBENZENE, 1, 2-DICHLOROETHANE, 1, 1-DICHLOROETHENE, DICHLOROMETHANE, TETRACHLOROETHYLENE, TETRA CHLOROMETHANE, TOLUENE, 1, 1, 1-TRICHLOROETHANE, TRICHLOROETHYLENE, TRICHLOROMETHANE, VINYL CHLORIDE, AND XYLENE ISOMERS.
  - I. OXYGEN AND NITROGEN
  - J. MOISTURE CONTENT
  - K. TEMPERATURE
  - L. FLOW RATE
  - M. VOLATILE ORGANIC COMPOUNDS (VOCS) CONTROL EFFICIENCY, WT% (BASED ON INLET AND EXHAUST VOCS)

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

THE REPORT SHALL ALSO PRESENT THE EMISSIONS DATA IN UNITS OF POUNDS PER HOUR (LB/HR), POUNDS PER MILLION BTU (LB/MMBTU), AND PARTS PER MILLION (PPMV) ON A DRY BASIS AT 15% O<sub>2</sub> (CO, NO<sub>x</sub>, AND TNMHC). ALSO, PROVIDE GAS TURBINE'S DEMONSTRATED EFFICIENCY AT FULL LOAD, IN BTU/KW-HR, CORRECTED TO THE HIGHER HEATING VALUE (HHV) OF THE FUEL.

[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 1401, 3004 (a) (4)]

16. DURING NORMAL OPERATION, EMISSIONS FROM THE GAS TURBINE SHALL NOT EXCEED THE FOLLOWING:

CONTAMINANT	LBS/DAY
CO	260
NO <sub>x</sub> (AS NO <sub>2</sub> )	133.7
PM <sub>10</sub> /PM <sub>2.5</sub>	26.2
TGNMOC (AS CH <sub>4</sub> )	17.3
SOX (AS SO <sub>2</sub> )	64.5

[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]

17. EMISSIONS OF OXIDES OF NITROGEN SHALL NOT EXCEED 25 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
18. EMISSIONS OF CARBON MONOXIDE SHALL NOT EXCEED 80 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
19. THE GAS TURBINE'S CO AND NO<sub>x</sub> EMISSIONS, BASED ON MEASURED AND MONITORED RESULTS (OR MANUFACTURER'S EMISSIONS TESTING METHODS UPON DISTRICT'S APPROVAL), SHALL BE USED TO ESTABLISH THE CO AND NO<sub>x</sub> LIMITS OF THE FINAL PERMIT TO OPERATE.  
[RULE 204]
20. THE OWNER OR OPERATOR SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]
21. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### Emissions And Requirements:

THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS.

22. CO: 2000 PPMV, DRY, 15 MIN. AVG., RULE 407  
CO: 80 PPMV, @ 15% O2, DRY, MAJOR SOURCE – MFGR. GUARANTEE  
NOx: 25 PPMV, @ 15% O2, DRY, MAJOR SOURCE – LAER  
NOx: 74 PPMV, @ 15% O2, DRY, NSPS, 40CFR60 SUBPART KKKK  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
ROG: 20 PPMV, AS HEXANE, @ 3% O2, DRY OR 98% (BY WT) DESTRUCTION EFFICIENCY, RULE 1150.1 & NSPS  
SOx: BASED ON 150 PPMV H2S CON. IN LFG, RULE 431.1  
SOx: 0.90 LB/MWh OR 0.06 LB/MMBTU, NSPS, 40CFR60 SUBPART KKKK.

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **PERMIT TO CONSTRUCT**

**A/N 484915  
Granted as of**

#### **Equipment Description:**

**LANDFILL GAS CONTROL AND GAS-TO-ENERGY SYSTEM CONSISTING OF:**

1. PRETREATED LANDFILL GAS (LFG) SUPPLY.
2. GAS TURBINE, NO. 3, SOLAR, MERCURY 50 OR EQUIVALENT, LANDFILL GAS (LFG) FIRED, MAXIMUM 51.78 MILLION BTU PER HOUR HEAT INPUT RATING (HHV), BRAYTON CYCLE WITH RECUPERATOR, WITH ELECTRIC START MOTOR, TEN-STAGE AXIAL FLOW COMPRESSOR, ULTRA LEAN PREMIX (ULP) ANNULAR COMBUSTOR, AUTOMATIC PROPANE PILOT AND FUEL CONTROL SYSTEM, PROGRAMMABLE CONTROLLER, AND DRIVING A 4.6 MEGAWATT (MW) ELECTRIC GENERATOR.
3. EXHAUST STACK, 3'- 3" DIA. X 25' HIGH.

#### **Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS EQUIPMENT SHALL BE FIRED ONLY WITH LANDFILL GAS DURING NORMAL OPERATION. PROPANE GAS MAY BE USED DURING EQUIPMENT START UP NOT TO EXCEED 60 MINUTES, WHEN THE LFG QUALITY IS LOWER THAN 400 (WOBBE INDEX).  
[RULE 204]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

5. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL GAS TURBINE DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.  
[RULE 204]
6. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED AND MAINTAINED IN THE LANDFILL GAS SUPPLY LINE TO THE GAS TURBINE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BEING BURNED.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4),]
7. WEEKLY READINGS OF THE BTU CONTENT OF LANDFILL GAS AT THE INLET TO THE GAS TURBINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 3004 (a) (4)]
8. THE TOTAL HEAT INPUT OF LANDFILL GAS BURNED IN THE GAS TURBINE SHALL NOT EXCEED 51.78 MM BTU PER HOUR (HHV @ 500 BTU/SCF). A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THE GAS TURBINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST WEEKLY BTU CONTENT READING.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
9. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]
10. THE OWNER OR OPERATOR SHALL PROVIDE 100% BACKUP CONTROL. THE LANDFILL GAS NOT UTILIZED BY THIS EQUIPMENT SHALL BE DIRECTED TO THE FLARE FOR COMBUSTION OR ANY OTHER COMBUSTION OR PROCESSING FACILITY, WHICH IS IN FULL USE, CAN ADEQUATELY PROCESS THE VOLUME OF GAS COLLECTED AND HAS BEEN ISSUED A VALID PERMIT BY THE SCAQMD.  
[RULE 1303 (a) (1)-BACT]
11. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW LANDFILL GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF FUEL GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF REFINERY AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR AFTER OCCURRENCE, OR WITHIN ONE HOUR OF THE TIME THE OPERATING PERSONNEL KNEW OR REASONABLY SHOULD HAVE KNOWN OF THE OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.  
[RULE 402, 430]
12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH THE SCAQMD RULE 431.1.  
[RULE 431.1]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

13. ADEQUATE NUMBER OF SAMPLING PORTS AND WELDED NIPPLES WITH CAPS, WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED IN THE EXHAUST STACK IN ACCORDANCE WITH RULE 217 AND SCAQMD'S APPROVAL.  
[RULE 217]
14. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), APPROVED BY THE EXECUTIVE OFFICER, SHALL BE INSTALLED, OPERATED AND MAINTAINED TO MEASURE THE EXHAUST CONCENTRATION FOR NO<sub>x</sub> AND O<sub>2</sub>, ON A DRY BASIS. IN ADDITION, THE SYSTEM SHALL CONVERT THE ACTUAL NO<sub>x</sub> CONCENTRATION TO A CORRECTED NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND CONTINUOUSLY RECORD THE STACK NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub>. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218. PRIOR TO INSTALLATION, THIS MONITORING SYSTEM SHALL BE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.  
[RULE 218, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
15. WITHIN 180 DAYS AFTER INITIAL START-UP, AND ANNUALLY (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST) THEREAFTER, THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM MANAGER, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET LANDFILL GAS AND THE GAS TURBINE EXHAUST FOR:
  - A. METHANE AND TOTAL NON-METHANE HYDROCARBONS
  - B. CARBON MONOXIDE (EXHAUST ONLY)
  - C. OXIDES OF NITROGEN (EXHAUST ONLY)
  - D. CARBON DIOXIDE
  - E. TOTAL PARTICULATES, REPORTED AS PM<sub>10</sub>/PM<sub>2.5</sub> (EXHAUST ONLY)
  - F. C<sub>1</sub> THROUGH C<sub>3</sub> SULFUR COMPOUNDS (SPECIATED, INLET ONLY)
  - G. FORMALDEHYDE (EXHAUST ONLY)
  - H. TOXIC AIR CONTAMINANTS INCLUDING, BUT NOT LIMITED TO, BENZENE, CHLOROBENZENE, 1, 2-DICHLOROETHANE, 1, 1-DICHLOROETHENE, DICHLOROMETHANE, TETRACHLOROETHYLENE, TETRA CHLOROMETHANE, TOLUENE, 1, 1, 1-TRICHLOROETHANE, TRICHLOROETHYLENE, TRICHLOROMETHANE, VINYL CHLORIDE, AND XYLENE ISOMERS.
  - I. OXYGEN AND NITROGEN
  - J. MOISTURE CONTENT
  - K. TEMPERATURE
  - L. FLOW RATE
  - M. VOLATILE ORGANIC COMPOUNDS (VOCS) CONTROL EFFICIENCY, WT% (BASED ON INLET AND EXHAUST VOCS)

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

THE REPORT SHALL ALSO PRESENT THE EMISSIONS DATA IN UNITS OF POUNDS PER HOUR (LB/HR), POUNDS PER MILLION BTU (LB/MMBTU), AND PARTS PER MILLION (PPMV) ON A DRY BASIS AT 15% O<sub>2</sub> (CO, NO<sub>x</sub>, AND TNMHC). ALSO, PROVIDE GAS TURBINE'S DEMONSTRATED EFFICIENCY AT FULL LOAD, IN BTU/KW-HR, CORRECTED TO THE HIGHER HEATING VALUE (HHV) OF THE FUEL.

[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 1401, 3004 (a) (4)]

16. DURING NORMAL OPERATION, EMISSIONS FROM THE GAS TURBINE SHALL NOT EXCEED THE FOLLOWING:

CONTAMINANT	LBS/DAY
CO	260
NO <sub>x</sub> (AS NO <sub>2</sub> )	133.7
PM <sub>10</sub> /PM <sub>2.5</sub>	26.2
TGNMOC (AS CH <sub>4</sub> )	17.3
SOX (AS SO <sub>2</sub> )	64.5

[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]

17. EMISSIONS OF OXIDES OF NITROGEN SHALL NOT EXCEED 25 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
18. EMISSIONS OF CARBON MONOXIDE SHALL NOT EXCEED 80 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
19. THE GAS TURBINE'S CO AND NO<sub>x</sub> EMISSIONS, BASED ON MEASURED AND MONITORED RESULTS (OR MANUFACTURER'S EMISSIONS TESTING METHODS UPON DISTRICT'S APPROVAL), SHALL BE USED TO ESTABLISH THE CO AND NO<sub>x</sub> LIMITS OF THE FINAL PERMIT TO OPERATE.  
[RULE 204]
20. THE OWNER OR OPERATOR SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]
21. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### Emissions And Requirements:

THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS.

22. CO: 2000 PPMV, DRY, 15 MIN. AVG., RULE 407  
CO: 80 PPMV, @ 15% O2, DRY, MAJOR SOURCE – MFGR. GUARANTEE  
NOx: 25 PPMV, @ 15% O2, DRY, MAJOR SOURCE – LAER  
NOx: 74 PPMV, @ 15% O2, DRY, NSPS, 40CFR60 SUBPART KKKK  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
ROG: 20 PPMV, AS HEXANE, @ 3% O2, DRY OR 98% (BY WT) DESTRUCTION EFFICIENCY, RULE 1150.1 & NSPS  
SOx: BASED ON 150 PPMV H2S CON. IN LFG, RULE 431.1  
SOx: 0.90 LB/MWh OR 0.06 LB/MMBTU, NSPS, 40CFR60 SUBPART KKKK.

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### PERMIT TO CONSTRUCT

A/N 484916  
Granted as of

#### Equipment Description:

LANDFILL GAS CONTROL AND GAS-TO-ENERGY SYSTEM CONSISTING OF:

1. PRETREATED LANDFILL GAS (LFG) SUPPLY.
2. GAS TURBINE, NO. 4, SOLAR, MERCURY 50 OR EQUIVALENT, LANDFILL GAS (LFG) FIRED, MAXIMUM 51.78 MILLION BTU PER HOUR HEAT INPUT RATING (HHV), BRAYTON CYCLE WITH RECUPERATOR, WITH ELECTRIC START MOTOR, TEN-STAGE AXIAL FLOW COMPRESSOR, ULTRA LEAN PREMIX (ULP) ANNULAR COMBUSTOR, AUTOMATIC PROPANE PILOT AND FUEL CONTROL SYSTEM, PROGRAMMABLE CONTROLLER, AND DRIVING A 4.6 MEGAWATT (MW) ELECTRIC GENERATOR.
3. EXHAUST STACK, 3' - 3" DIA. X 25' HIGH.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS EQUIPMENT SHALL BE FIRED ONLY WITH LANDFILL GAS DURING NORMAL OPERATION. PROPANE GAS MAY BE USED DURING EQUIPMENT START UP NOT TO EXCEED 60 MINUTES, WHEN THE LFG QUALITY IS LOWER THAN 400 (WOBBE INDEX).  
[RULE 204]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

5. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL GAS TURBINE DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.  
[RULE 204]
6. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED AND MAINTAINED IN THE LANDFILL GAS SUPPLY LINE TO THE GAS TURBINE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BEING BURNED.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4),]
7. WEEKLY READINGS OF THE BTU CONTENT OF LANDFILL GAS AT THE INLET TO THE GAS TURBINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 3004 (a) (4)]
8. THE TOTAL HEAT INPUT OF LANDFILL GAS BURNED IN THE GAS TURBINE SHALL NOT EXCEED 51.78 MM BTU PER HOUR (HHV @ 500 BTU/SCF). A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THE GAS TURBINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST WEEKLY BTU CONTENT READING.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
9. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]
10. THE OWNER OR OPERATOR SHALL PROVIDE 100% BACKUP CONTROL. THE LANDFILL GAS NOT UTILIZED BY THIS EQUIPMENT SHALL BE DIRECTED TO THE FLARE FOR COMBUSTION OR ANY OTHER COMBUSTION OR PROCESSING FACILITY, WHICH IS IN FULL USE, CAN ADEQUATELY PROCESS THE VOLUME OF GAS COLLECTED AND HAS BEEN ISSUED A VALID PERMIT BY THE SCAQMD.  
[RULE 1303 (a) (1)-BACT]
11. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW LANDFILL GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF FUEL GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF REFINERY AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR AFTER OCCURRENCE, OR WITHIN ONE HOUR OF THE TIME THE OPERATING PERSONNEL KNEW OR REASONABLY SHOULD HAVE KNOWN OF THE OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.  
[RULE 402, 430]
12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH THE SCAQMD RULE 431.1.  
[RULE 431.1]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

13. ADEQUATE NUMBER OF SAMPLING PORTS AND WELDED NIPPLES WITH CAPS, WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED IN THE EXHAUST STACK IN ACCORDANCE WITH RULE 217 AND SCAQMD'S APPROVAL.  
[RULE 217]
14. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), APPROVED BY THE EXECUTIVE OFFICER, SHALL BE INSTALLED, OPERATED AND MAINTAINED TO MEASURE THE EXHAUST CONCENTRATION FOR NO<sub>x</sub> AND O<sub>2</sub>, ON A DRY BASIS. IN ADDITION, THE SYSTEM SHALL CONVERT THE ACTUAL NO<sub>x</sub> CONCENTRATION TO A CORRECTED NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND CONTINUOUSLY RECORD THE STACK NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub>. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218. PRIOR TO INSTALLATION, THIS MONITORING SYSTEM SHALL BE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.  
[RULE 218, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
15. WITHIN 180 DAYS AFTER INITIAL START-UP, AND ANNUALLY (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST) THEREAFTER, THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM MANAGER, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET LANDFILL GAS AND THE GAS TURBINE EXHAUST FOR:
  - A. METHANE AND TOTAL NON-METHANE HYDROCARBONS
  - B. CARBON MONOXIDE (EXHAUST ONLY)
  - C. OXIDES OF NITROGEN (EXHAUST ONLY)
  - D. CARBON DIOXIDE
  - E. TOTAL PARTICULATES, REPORTED AS PM<sub>10</sub>/PM<sub>2.5</sub> (EXHAUST ONLY)
  - F. C1 THROUGH C3 SULFUR COMPOUNDS (SPECIATED, INLET ONLY)
  - G. FORMALDEHYDE (EXHAUST ONLY)
  - H. TOXIC AIR CONTAMINANTS INCLUDING, BUT NOT LIMITED TO, BENZENE, CHLOROBENZENE, 1, 2-DICHLOROETHANE, 1, 1-DICHLOROETHENE, DICHLOROMETHANE, TETRACHLOROETHYLENE, TETRA CHLOROMETHANE, TOLUENE, 1, 1, 1-TRICHLOROETHANE, TRICHLOROETHYLENE, TRICHLOROMETHANE, VINYL CHLORIDE, AND XYLENE ISOMERS.
  - I. OXYGEN AND NITROGEN
  - J. MOISTURE CONTENT
  - K. TEMPERATURE
  - L. FLOW RATE
  - M. VOLATILE ORGANIC COMPOUNDS (VOCS) CONTROL EFFICIENCY, WT% (BASED ON INLET AND EXHAUST VOCS)

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

THE REPORT SHALL ALSO PRESENT THE EMISSIONS DATA IN UNITS OF POUNDS PER HOUR (LB/HR), POUNDS PER MILLION BTU (LB/MMBTU), AND PARTS PER MILLION (PPMV) ON A DRY BASIS AT 15% O<sub>2</sub> (CO, NO<sub>x</sub>, AND TNMHC). ALSO, PROVIDE GAS TURBINE'S DEMONSTRATED EFFICIENCY AT FULL LOAD, IN BTU/KW-HR, CORRECTED TO THE HIGHER HEATING VALUE (HHV) OF THE FUEL.

[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 1401, 3004 (a) (4)]

16. DURING NORMAL OPERATION, EMISSIONS FROM THE GAS TURBINE SHALL NOT EXCEED THE FOLLOWING:

CONTAMINANT	LBS/DAY
CO	260
NO <sub>x</sub> (AS NO <sub>2</sub> )	133.7
PM <sub>10</sub> /PM <sub>2.5</sub>	26.2
TGNMOC (AS CH <sub>4</sub> )	17.3
SOX (AS SO <sub>2</sub> )	64.5

[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]

17. EMISSIONS OF OXIDES OF NITROGEN SHALL NOT EXCEED 25 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
18. EMISSIONS OF CARBON MONOXIDE SHALL NOT EXCEED 80 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
19. THE GAS TURBINE'S CO AND NO<sub>x</sub> EMISSIONS, BASED ON MEASURED AND MONITORED RESULTS (OR MANUFACTURER'S EMISSIONS TESTING METHODS UPON DISTRICT'S APPROVAL), SHALL BE USED TO ESTABLISH THE CO AND NO<sub>x</sub> LIMITS OF THE FINAL PERMIT TO OPERATE.  
[RULE 204]
20. THE OWNER OR OPERATOR SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]
21. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### Emissions And Requirements:

THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS.

22. CO: 2000 PPMV, DRY, 15 MIN. AVG., RULE 407  
CO: 80 PPMV, @ 15% O2, DRY, MAJOR SOURCE – MFGR. GUARANTEE  
NOx: 25 PPMV, @ 15% O2, DRY, MAJOR SOURCE – LAER  
NOx: 74 PPMV, @ 15% O2, DRY, NSPS, 40CFR60 SUBPART KKKK  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
ROG: 20 PPMV, AS HEXANE, @ 3% O2, DRY OR 98% (BY WT) DESTRUCTION EFFICIENCY, RULE 1150.1 & NSPS  
SOx: BASED ON 150 PPMV H2S CON. IN LFG, RULE 431.1  
SOx: 0.90 LB/MWh OR 0.06 LB/MMBTU, NSPS, 40CFR60 SUBPART KKKK.

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **PERMIT TO CONSTRUCT**

**A/N 484917  
Granted as of**

#### **Equipment Description:**

**LANDFILL GAS CONTROL AND GAS-TO-ENERGY SYSTEM CONSISTING OF:**

1. **PRETREATED LANDFILL GAS (LFG) SUPPLY.**
2. **GAS TURBINE, NO. 5, SOLAR, MERCURY 50 OR EQUIVALENT, LANDFILL GAS (LFG) FIRED, MAXIMUM 51.78 MILLION BTU PER HOUR HEAT INPUT RATING (HHV), BRAYTON CYCLE WITH RECUPERATOR, WITH ELECTRIC START MOTOR, TEN-STAGE AXIAL FLOW COMPRESSOR, ULTRA LEAN PREMIX (ULP) ANNULAR COMBUSTOR, AUTOMATIC PROPANE PILOT AND FUEL CONTROL SYSTEM, PROGRAMMABLE CONTROLLER, AND DRIVING A 4.6 MEGAWATT (MW) ELECTRIC GENERATOR.**
3. **EXHAUST STACK, 3'- 3" DIA. X 25' HIGH.**

#### **Conditions:**

1. **OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]**
2. **THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]**
3. **THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]**
4. **THIS EQUIPMENT SHALL BE FIRED ONLY WITH LANDFILL GAS DURING NORMAL OPERATION. PROPANE GAS MAY BE USED DURING EQUIPMENT START UP NOT TO EXCEED 60 MINUTES, WHEN THE LFG QUALITY IS LOWER THAN 400 (WOBBE INDEX).  
[RULE 204]**

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

5. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL GAS TURBINE DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.  
[RULE 204]
6. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED AND MAINTAINED IN THE LANDFILL GAS SUPPLY LINE TO THE GAS TURBINE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BEING BURNED.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4).]
7. WEEKLY READINGS OF THE BTU CONTENT OF LANDFILL GAS AT THE INLET TO THE GAS TURBINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 3004 (a) (4)]
8. THE TOTAL HEAT INPUT OF LANDFILL GAS BURNED IN THE GAS TURBINE SHALL NOT EXCEED 51.78 MM BTU PER HOUR (HHV @ 500 BTU/SCF). A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THE GAS TURBINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST WEEKLY BTU CONTENT READING.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
9. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]
10. THE OWNER OR OPERATOR SHALL PROVIDE 100% BACKUP CONTROL. THE LANDFILL GAS NOT UTILIZED BY THIS EQUIPMENT SHALL BE DIRECTED TO THE FLARE FOR COMBUSTION OR ANY OTHER COMBUSTION OR PROCESSING FACILITY, WHICH IS IN FULL USE, CAN ADEQUATELY PROCESS THE VOLUME OF GAS COLLECTED AND HAS BEEN ISSUED A VALID PERMIT BY THE SCAQMD.  
[RULE 1303 (a) (1)-BACT]
11. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW LANDFILL GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF FUEL GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF REFINERY AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR AFTER OCCURRENCE, OR WITHIN ONE HOUR OF THE TIME THE OPERATING PERSONNEL KNEW OR REASONABLY SHOULD HAVE KNOWN OF THE OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.  
[RULE 402, 430]
12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH THE SCAQMD RULE 431.1.  
[RULE 431.1]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

13. ADEQUATE NUMBER OF SAMPLING PORTS AND WELDED NIPPLES WITH CAPS, WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED IN THE EXHAUST STACK IN ACCORDANCE WITH RULE 217 AND SCAQMD'S APPROVAL.  
[RULE 217]
14. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), APPROVED BY THE EXECUTIVE OFFICER, SHALL BE INSTALLED, OPERATED AND MAINTAINED TO MEASURE THE EXHAUST CONCENTRATION FOR NO<sub>x</sub> AND O<sub>2</sub>, ON A DRY BASIS. IN ADDITION, THE SYSTEM SHALL CONVERT THE ACTUAL NO<sub>x</sub> CONCENTRATION TO A CORRECTED NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND CONTINUOUSLY RECORD THE STACK NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub>. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218. PRIOR TO INSTALLATION, THIS MONITORING SYSTEM SHALL BE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.  
[RULE 218, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
15. WITHIN 180 DAYS AFTER INITIAL START-UP, AND ANNUALLY (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST) THEREAFTER, THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM MANAGER, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET LANDFILL GAS AND THE GAS TURBINE EXHAUST FOR:
- A. METHANE AND TOTAL NON-METHANE HYDROCARBONS
  - B. CARBON MONOXIDE (EXHAUST ONLY)
  - C. OXIDES OF NITROGEN (EXHAUST ONLY)
  - D. CARBON DIOXIDE
  - E. TOTAL PARTICULATES, REPORTED AS PM10/PM2.5 (EXHAUST ONLY)
  - F. C1 THROUGH C3 SULFUR COMPOUNDS (SPECIATED, INLET ONLY)
  - G. FORMALDEHYDE (EXHAUST ONLY)
  - H. TOXIC AIR CONTAMINANTS INCLUDING, BUT NOT LIMITED TO, BENZENE, CHLOROBENZENE, 1, 2-DICHLOROETHANE, 1, 1-DICHLOROETHENE, DICHLOROMETHANE, TETRACHLOROETHYLENE, TETRA CHLOROMETHANE, TOLUENE, 1, 1, 1-TRICHLOROETHANE, TRICHLOROETHYLENE, TRICHLOROMETHANE, VINYL CHLORIDE, AND XYLENE ISOMERS.
  - I. OXYGEN AND NITROGEN
  - J. MOISTURE CONTENT
  - K. TEMPERATURE
  - L. FLOW RATE
  - M. VOLATILE ORGANIC COMPOUNDS (VOCS) CONTROL EFFICIENCY, WT% (BASED ON INLET AND EXHAUST VOCS)

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

THE REPORT SHALL ALSO PRESENT THE EMISSIONS DATA IN UNITS OF POUNDS PER HOUR (LB/HR), POUNDS PER MILLION BTU (LB/MMBTU), AND PARTS PER MILLION (PPMV) ON A DRY BASIS AT 15% O<sub>2</sub> (CO, NO<sub>x</sub>, AND TNMHC). ALSO, PROVIDE GAS TURBINE'S DEMONSTRATED EFFICIENCY AT FULL LOAD, IN BTU/KW-HR, CORRECTED TO THE HIGHER HEATING VALUE (HHV) OF THE FUEL.

[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 1401, 3004 (a) (4)]

16. DURING NORMAL OPERATION, EMISSIONS FROM THE GAS TURBINE SHALL NOT EXCEED THE FOLLOWING:

CONTAMINANT	LBS/DAY
CO	260
NO <sub>x</sub> (AS NO <sub>2</sub> )	133.7
PM <sub>10</sub> /PM <sub>2.5</sub>	26.2
TGNMOC (AS CH <sub>4</sub> )	17.3
SOX (AS SO <sub>2</sub> )	64.5

[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]

17. EMISSIONS OF OXIDES OF NITROGEN SHALL NOT EXCEED 25 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
18. EMISSIONS OF CARBON MONOXIDE SHALL NOT EXCEED 80 PPMV, CALCULATED AT 15% O<sub>2</sub>, DRY BASIS, EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT.  
[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]
19. THE GAS TURBINE'S CO AND NO<sub>x</sub> EMISSIONS, BASED ON MEASURED AND MONITORED RESULTS (OR MANUFACTURER'S EMISSIONS TESTING METHODS UPON DISTRICT'S APPROVAL), SHALL BE USED TO ESTABLISH THE CO AND NO<sub>x</sub> LIMITS OF THE FINAL PERMIT TO OPERATE.  
[RULE 204]
20. THE OWNER OR OPERATOR SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]
21. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **Emissions And Requirements:**

**THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS.**

22. CO: 2000 PPMV, DRY, 15 MIN. AVG., RULE 407  
CO: 80 PPMV, @ 15% O2, DRY, MAJOR SOURCE – MFGR. GUARANTEE  
NOx: 25 PPMV, @ 15% O2, DRY, MAJOR SOURCE – LAER  
NOx: 74 PPMV, @ 15% O2, DRY, NSPS, 40CFR60 SUBPART KKKK  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
ROG: 20 PPMV, AS HEXANE, @ 3% O2, DRY OR 98% (BY WT) DESTRUCTION EFFICIENCY, RULE 1150.1 & NSPS  
SOx: BASED ON 150 PPMV H2S CON. IN LFG, RULE 431.1  
SOx: 0.90 LB/MWh OR 0.06 LB/MMBTU, NSPS, 40CFR60 SUBPART KKKK.

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### RULE 219 EQUIPMENT

#### Equipment Description:

RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT, GLOVE-BOX, < 53 FT<sup>3</sup>, WITH DUST FILTER.

#### Periodic Monitoring:

1. THE OPERATOR SHALL PERFORM AN ANNUAL INSPECTION OF THE EQUIPMENT AND FILTER MEDIA FOR LEAKS, BROKEN OR TORN FILTER MEDIA AND IMPROPERLY INSTALLED FILTER MEDIA. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):
  - A. THE NAME OF THE PERSON PERFORMING THE INSPECTION AND/OR MAINTENANCE OF THE FILTER MEDIA;
  - B. THE DATE, TIME AND RESULTS OF THE INSPECTION; AND
  - C. THE DATE, TIME AND DESCRIPTION OF ANY MAINTENANCE OR REPAIRS RESULTING FROM THE INSPECTION.  
[RULE 3004 (a) (4)]
2. THE OPERATOR SHALL DISCHARGE DUST COLLECTED IN THIS EQUIPMENT ONLY INTO CLOSED CONTAINERS.  
[RULE 3004 (a) (4)]
3. THE OPERATOR SHALL CONDUCT AN INSPECTION FOR VISIBLE EMISSIONS FROM ALL STACKS AND OTHER EMISSION POINTS OF THIS EQUIPMENT WHENEVER THERE IS A PUBLIC COMPLAINT OF VISIBLE EMISSIONS, WHENEVER VISIBLE EMISSIONS ARE OBSERVED, AND ON AN ANNUAL BASIS, AT LEAST, UNLESS THE EQUIPMENT DID NOT OPERATE DURING THE ENTIRE ANNUAL PERIOD. THE ROUTINE ANNUAL INSPECTION SHALL BE CONDUCTED WHILE THE EQUIPMENT IS IN OPERATION AND DURING DAYLIGHT HOURS. IF ANY VISIBLE EMISSIONS (NOT INCLUDING CONDENSED WATER VAPOR) ARE DETECTED, THE OPERATOR SHALL TAKE CORRECTIVE ACTION(S) THAT ELIMINATES THE VISIBLE EMISSIONS WITHIN 24 HOURS AND REPORT THE VISIBLE EMISSIONS AS A POTENTIAL DEVIATION IN ACCORDANCE WITH THE REPORTING REQUIREMENTS IN SECTION K OF THIS PERMIT.  
THE OPERATOR SHALL KEEP THE RECORDS IN ACCORDANCE WITH THE RECORDKEEPING REQUIREMENTS IN SECTION K OF THIS PERMIT AND THE FOLLOWING RECORDS:
  - A. STACK OR EMISSION POINT IDENTIFICATION;
  - B. DESCRIPTION OF ANY CORRECTIVE ACTIONS TAKEN TO ABATE VISIBLE EMISSIONS; AND
  - C. DATE AND TIME VISIBLE EMISSION WAS ABATED.  
[RULE 3004 (a) (4)]

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, HAND WIPING OPERATIONS.

**Emissions And Requirements:**

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, CLEANING EQUIPMENT, SMALL UNHEATED, NON-CONVEYORIZED

**Emissions And Requirements:**

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1122

VOC: RULE 1171. SEE APPENDIX B FOR EMISSION LIMITS

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### RULE 219 EQUIPMENT

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, BOILER, WITH RATED HEAT INPUT STARTING AT 75, 000 BTU/HR UP TO AND INCLUDING 2 MMBTU/HR.

**Emissions And Requirements:**

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: 0.1 gr/scf, RULE 409

CO: 2000 PPMV, RULE 407

NO<sub>x</sub>: 30 PPMV @3% O<sub>2</sub>, DRY-TYPE 2 UNIT, > 400,000 BTU/HR AND ≤ 2 MM BTU/HR, RULE 1146.2

NO<sub>x</sub>: 55 PPMV @3% O<sub>2</sub>, DRY-TYPE 1 UNIT, ≥ 400,000 BTU/HR AND ≤ 400,000 BTU/HR, RULE 1146.2

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **RULE 219 EQUIPMENT**

#### **Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS.

#### **Periodic Monitoring:**

1. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):

FOR ARCHITECTURAL APPLICATIONS WHERE NO THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN SEMI-ANNUAL RECORDS OF ALL COATINGS CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS SUPPLIED IN GRAMS PER LITER (g/l) OF MATERIALS FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS SUPPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

FOR OTHER ARCHITECTURAL APPLICATIONS WHERE THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN DAILY RECORDS FOR EACH COATING CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS APPLIED IN GRAMS PER LITER (g/l) OF MATERIALS USED FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS APPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.  
[RULE 3004(a) (4)]

#### **Emissions And Requirements:**

2. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1113, SEE APPENDIX B FOR EMISSION LIMITS

VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS.

**Emissions And Requirements:**

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1415

VOC: 40CFR 82 SUBPART F

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, FIRE EXTINGUISHING EQUIPMENT

**Emissions And Requirements:**

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

HALON:           RULE 1418

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **SECTION I: PLANS AND SCHEDULES**

This section lists all plans approved by AQMD for the purposes of meeting the requirements of applicable AQMD rules.

NONE

**NOTE: This section does not list compliance schedules pursuant to the requirements of Regulation XXX - Title V Permits; Rule 3004(a)(10)(C). For equipment subject to a variance, order for abatement, or alternative operating condition granted pursuant to Rule 518.2, equipment specific conditions are added to the equipment in Section D or H of the permit.**

**FACILITY PERMIT TO OPERATE**  
**BOWERMAN POWER LFG, LLC**

**SECTION J: AIR TOXICS**  
**[40CFR 63 Subpart AAAA 1-16-2003]**

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS -  
MUNICIPAL SOLID WASTE LANDFILLS

- (1) The owner/operator of a municipal solid waste (MSW) landfill shall comply with all applicable requirements of 40 CFR 63, Subpart AAAA and of 40 CFR 63, Subpart A – General Provisions by the compliance date(s) that are specified in these subparts.
- (2) The owner/operator of a MSW landfill system shall comply with all applicable requirements for installation and operation of a landfill gas collection and/or control system as specified in 40 CFR 60, subpart Cc or WWW.
- (3) The operator shall keep all records pursuant to Section 63.1980 of this subpart or Subpart A to demonstrate compliance with all applicable requirements. All records including data, calculations and any supporting documentation shall be prepared in a format which is acceptable to the AQMD.
- (4) The operator shall submit all reports, notifications, plans, submittals and other communications required by Section 63.1980 of this subpart or Subpart A to the AQMD and, unless notified to the contrary by AQMD or US EPA, to US EPA Region IX (See Sections E and K of this permit for addresses).
- (5) Alternative plans, compliance plans, and the construction and operation of new or modified air pollution control equipment that are required by this subpart shall be approved through the AQMD permit system.

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION K: TITLE V Administration

#### GENERAL PROVISIONS

1. This permit may be revised, revoked, reopened and reissued, or terminated for cause, or for failure to comply with regulatory requirements, permit terms, or conditions. [3004(a)(7)(C)]
2. This permit does not convey any property rights of any sort or any exclusive privilege. [3004(a)(7)(E)]

#### Permit Renewal and Expiration

3. (A) Except for solid waste incineration facilities subject to standards under Section 129(e) of the Clean Air Act, this permit shall expire five years from the date that this Title V permit is issued. The operator's right to operate under this permit terminates at midnight on this date, unless the facility is protected by an application shield in accordance with Rule 3002(b), due to the filing of a timely and complete application for a Title V permit renewal, consistent with Rule 3003. [3004(a)(2), 3004(f)]  
  
(B) A Title V permit for a solid waste incineration facility combusting municipal waste subject to standards under Section 129(e) of the Clean Air Act shall expire 12 years from the date of issuance unless such permit has been renewed pursuant to this regulation. These permits shall be reviewed by the Executive Officer at least every five years from the date of issuance. [3004(f)(2)]
4. To renew this permit, the operator shall submit to the Executive Officer an application for renewal at least 180 days, but not more than 545 days, prior to the expiration date of this permit. [3003(a)(6)]

#### Duty to Provide Information

5. The applicant for, or holder of, a Title V permit shall furnish, pursuant to Rule 3002(d) and (e), timely information and records to the Executive Officer or designee within a reasonable time as specified in writing by the Executive Officer or designee. [3004(a)(7)(F)]

#### Payment of Fees

6. The operator shall pay all required fees specified in Regulation III - Fees. [3004(a)(7)(G)]

#### Reopening for Cause

7. The Executive Officer will reopen and revise this permit if any of the following circumstances occur:  
  
(A) Additional regulatory requirements become applicable with a remaining permit term of three or more years. Reopening is not required if the effective date of the requirement is later than the expiration date of this permit, unless the permit or any of its terms and conditions has been extended pursuant to paragraph (f)(4) of Rule 3004.

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION K: TITLE V Administration

- (B) The Executive Officer or EPA Administrator determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
- (C) The Executive Officer or EPA Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements. [3005(g)(1)]

### COMPLIANCE PROVISIONS

- 8. The operator shall comply with all regulatory requirements, and all permit terms and conditions, except:
  - (A) As provided for by the emergency provisions of condition no. 17 or condition no. 18, or
  - (B) As provided by an alternative operating condition granted pursuant to a federally approved (SIP-approved) Rule 518.2.

Any non-compliance with any federally enforceable permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or denial of a permit renewal application. Non-compliance may also be grounds for civil or criminal penalties under the California State Health and Safety Code. [3004(a)(7)(A)]

- 9. The operator shall allow the Executive Officer or authorized representative, upon presentation of appropriate credentials to:
  - (A) Enter the operator's premises where emission-related activities are conducted, or records are kept under the conditions of this permit;
  - (B) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
  - (C) Inspect at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
  - (D) Sample or monitor at reasonable times, substances or parameters for the purpose of assuring compliance with the facility permit or regulatory requirements. [3004(a)(10)(B)]
- 10. All terms and conditions in this permit, including any provisions designed to limit a facility's potential to emit, are enforceable by the EPA Administrator and citizens under the federal Clean Air Act, unless the term or condition is designated as not federally enforceable. Each day during any portion of which a violation occurs is a separate offense. [3004(g)]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION K: TITLE V Administration

11. A challenge to any permit condition or requirement raised by EPA, the operator, or any other person, shall not invalidate or otherwise affect the remaining portions of this permit. [3007(b)]
12. The filing of any application for a permit revision, revocation, or termination, or a notification of planned changes or anticipated non-compliance does not stay any permit condition. [3004(a)(7)(D)]
13. It shall not be a defense for a person in an enforcement action, including those listed in Rule 3002(c)(2), that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit, except as provided for in "Emergency Provisions" of this section. [3004(a)(7)(H)]
14. The operator shall not build, erect, install, or use any equipment, the use of which, without resulting in a reduction in the total release of air contaminants to atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Chapter 3 (commencing with Section 41700) of Part 4, of Division 26 of the California Health and Safety Code or of AQMD rules. This rule shall not apply to cases in which the only violation involved is of Section 41700 of the California Health and Safety Code, or Rule 402 of AQMD Rules. [408]
15. Nothing in this permit or in any permit shield can alter or affect:
  - (A) Under Section 303 of the federal Clean Air Act, the provisions for emergency orders;
  - (B) The liability of the operator for any violation of applicable requirements prior to or at the time of permit issuance;
  - (C) The applicable requirements of the Acid Rain Program, Regulation XXXI;
  - (D) The ability of EPA to obtain information from the operator pursuant to Section 114 of the federal Clean Air Act;
  - (E) The applicability of state or local requirements that are not "applicable requirements", as defined in Rule 3000, at the time of permit issuance but which do apply to the facility, such as toxics requirements unique to the State; and
  - (F) The applicability of regulatory requirements with compliance dates after the permit issuance date. [3004(c)(3)]
16. For any portable equipment that requires an AQMD or state permit or registration, excluding a) portable engines, b) military tactical support equipment and c) AQMD-permitted portable equipment that are not a major source, are not located at the facility for more than 12 consecutive months after

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **SECTION K: TITLE V Administration**

commencing operation, and whose operation does not conflict with the terms or conditions of this Title V permit: 1) the facility operator shall keep a copy of the AQMD or state permit or registration; 2) the equipment operator shall comply with the conditions on the permit or registration and all other regulatory requirements; and 3) the facility operator shall treat the permit or registration as a part of its Title V permit, subject to recordkeeping, reporting and certification requirements. [3004(a)(1)]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION K: TITLE V Administration

#### EMERGENCY PROVISIONS

17. An emergency<sup>1</sup> constitutes an affirmative defense to an action brought for non-compliance with a technology-based emission limit only if:
- (A) Properly signed, contemporaneous operating records or other credible evidence demonstrate that:
    - (1) An emergency occurred and the operator can identify the cause(s) of the emergency;
    - (2) The facility was operated properly (i.e. operated and maintained in accordance with the manufacturer's specifications, and in compliance with all regulatory requirements or a compliance plan), before the emergency occurred;
    - (3) The operator took all reasonable steps to minimize levels of emissions that exceeded emissions standard, or other requirements in the permit; and,
    - (4) The operator submitted a written notice of the emergency to the AQMD within two working days of the time when the emissions limitations were exceeded due to the emergency. The notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and
  - (B) The operator complies with the breakdown provisions of Rule 430 - Breakdown Provisions, or subdivision (i) of Rule 2004 - Requirements, whichever is applicable. [3002(g), 430, 2004(i)]
18. The operator is excused from complying with any regulatory requirement that is suspended by the Executive Officer during a state of emergency or state of war emergency, in accordance with Rule 118 - Emergencies. [118]

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<sup>1</sup> "Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the operator, including acts of God, which: (A) requires immediate corrective action to restore normal operation; and (B) causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency; and (C) is not caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **SECTION K: TITLE V Administration**

#### **RECORDKEEPING PROVISIONS**

19. In addition to any other recordkeeping requirements specified elsewhere in this permit, the operator shall keep records of required monitoring information, where applicable, that include:
  - (A) The date, place as defined in the Title V permit, and time of sampling or measurements;
  - (B) The date(s) analyses were performed;
  - (C) The company or entity that performed the analyses;
  - (D) The analytical techniques or methods used;
  - (E) The results of such analyses; and
  - (F) The operating conditions as existing at the time of sampling or measurement. [3004(a)(4)(B)]
20. The operator shall maintain records pursuant to Rule 109 and any applicable material safety data sheet (MSDS) for any equipment claimed to be exempt from a written permit by Rule 219 based on the information in those records. [219(t)]
21. The operator shall keep all records of monitoring data required by this permit or by regulatory requirements for a period of at least five years from the date of the monitoring sample, measurement, report, or application. [3004(a)(4)(E)]

#### **REPORTING PROVISIONS**

22. The operator shall comply with the following requirements for prompt reporting of deviations:
  - (A) Breakdowns shall be reported as required by Rule 430 - Breakdown Provisions or subdivision (i) of Rule 2004 - Requirements, whichever is applicable.
  - (B) Other deviations from permit or applicable rule emission limitations, equipment operating conditions, or work practice standards, determined by observation or by any monitoring or testing required by the permit or applicable rules that result in emissions greater than those allowed by the permit or applicable rules shall be reported within 72 hours (unless a shorter reporting period is specified in an applicable State or Federal Regulation) of discovery of the deviation by contacting AQMD enforcement personnel assigned to this facility or otherwise calling (800) CUT-SMOG.

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION K: TITLE V Administration

- (C) A written report of such deviations reported pursuant to (B), and any corrective actions or preventative measures taken, shall be submitted to AQMD, in an AQMD approved format, within 14 days of discovery of the deviation.
  - (D) All other deviations shall be reported with the monitoring report required by condition no. 23. [3004(a)(5)]
23. Unless more frequent reporting of monitoring results are specified in other permit conditions or in regulatory requirements, the operator shall submit reports of any required monitoring to the AQMD at least twice per year. The report shall include a) a statement whether all monitoring required by the permit was conducted; and b) identification of all instances of deviations from permit or regulatory requirements. A report for the first six calendar months of the year is due by August 31 and a report for the last six calendar months of the year is due by February 28. [3004(a)(4)(F)]
24. The operator shall submit to the Executive Officer and to the Environmental Protection Agency (EPA), an annual compliance certification. For RECLAIM facilities, the certification is due when the Annual Permit Emissions Program (APEP) report is due and shall cover the same reporting period. For other facilities, the certification is due on March 1 for the previous calendar year. The certification need not include the period preceding the date the initial Title V permit was issued. Each compliance certification shall include:
- (A) Identification of each permit term or condition that is the basis of the certification;
  - (B) The compliance status during the reporting period;
  - (C) Whether compliance was continuous or intermittent;
  - (D) The method(s) used to determine compliance over the reporting period and currently, and
  - (E) Any other facts specifically required by the Executive Officer to determine compliance.

The EPA copy of the certification shall be sent to: Director of the Air Division Attn: Air-3 USEPA, Region IX 75 Hawthorne St. San Francisco, CA 94105 [3004(a)(10)(E)]

25. All records, reports, and documents required to be submitted by a Title V operator to AQMD or EPA shall contain a certification of accuracy consistent with Rule 3003(c)(7) by a responsible official (as defined in Rule 3000). [3004(a)(12)]

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**SECTION K: TITLE V Administration**

**PERIODIC MONITORING**

26. All periodic monitoring required by this permit pursuant to Rule 3004(a)(4)(c) is based on the requirements and justifications in the AQMD document "Periodic Monitoring Guidelines for Title V Facilities" or in case-by-case determinations documented in the Title V application file. [3004(a)(4)]

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION K: TITLE V Administration

#### *FACILITY RULES*

*This facility is subject to the following rules and regulations:*

With the exception of Rule 402, 473, 477, 1118 and Rules 1401 through 1420, the following rules that are designated as non-federally enforceable are pending EPA approval as part of the state implementation plan. Upon the effective date of that approval, the approved rule(s) will become federally enforceable, and any earlier versions of those rules will no longer be federally enforceable.

<b>RULE SOURCE</b>	<b>Adopted/Amended Date</b>	<b>FEDERAL Enforceability</b>
RULE 109	5-2-2003	Federally enforceable
RULE 1113	11-8-1996	Federally enforceable
RULE 1113	7-13-2007	Non federally enforceable
RULE 1133	1-10-2003	Federally enforceable
RULE 1133.1	1-10-2003	Federally enforceable
RULE 1150	10-15-1982	Non federally enforceable
RULE 1150.1	3-17-2000	Federally enforceable
RULE 1171	11-7-2003	Federally enforceable
RULE 1171	5-1-2009	Non federally enforceable
RULE 1303(a)(1)-BACT	12-6-2002	Non federally enforceable
RULE 1303(a)(1)-BACT	5-10-1996	Federally enforceable
RULE 1303(a)-BACT	5-10-1996	Federally enforceable
RULE 1303(b)(1)-Modeling	12-6-2002	Non federally enforceable
RULE 1303(b)(1)-Modeling	5-10-1996	Federally enforceable
RULE 1303(b)(2)-Offset	12-6-2002	Non federally enforceable
RULE 1303(b)(2)-Offset	5-10-1996	Federally enforceable
RULE 1401	6-5-2009	Non federally enforceable
RULE 204	10-8-1993	Federally enforceable
RULE 217	1-5-1990	Federally enforceable
RULE 219	6-1-2007	Non federally enforceable
RULE 219	9-4-1981	Federally enforceable
RULE 3002	11-14-1997	Federally enforceable
RULE 3003	11-14-1997	Federally enforceable
RULE 3003	3-16-2001	Non federally enforceable
RULE 3004	12-12-1997	Federally enforceable
RULE 3005	11-14-1997	Federally enforceable
RULE 3005	3-16-2001	Non federally enforceable
RULE 3007	10-8-1993	Federally enforceable
RULE 304	5-2-2008	Non federally enforceable

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### SECTION K: TITLE V Administration

<b>RULE SOURCE</b>	<b>Adopted/Amended Date</b>	<b>FEDERAL Enforceability</b>
RULE 401	11-9-2001	Non federally enforceable
RULE 401	3-2-1984	Federally enforceable
RULE 402	5-7-1976	Non federally enforceable
RULE 404	2-7-1986	Federally enforceable
RULE 407	4-2-1982	Federally enforceable
RULE 409	8-7-1981	Federally enforceable
RULE 430	7-12-1996	Non federally enforceable
RULE 431.1	6-12-1998	Federally enforceable
RULE 431.2	5-4-1990	Federally enforceable
RULE 431.2	9-15-2000	Non federally enforceable
RULE 461	3-7-2008	Non federally enforceable
RULE 461	4-21-2000	Federally enforceable
40CFR 60 Subpart KKKK	7-6-2006	Federally enforceable
40CFR 60 Subpart WWW	10-17-2000	Federally enforceable
40CFR 63 Subpart AAAA	1-16-2003	Federally enforceable
40CFR 63 Subpart AAAA	4-20-2006	Federally enforceable
RULE 701	6-13-1997	Federally enforceable

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**APPENDIX A: NOX AND SOX EMITTING EQUIPMENT EXEMPT FROM WRITTEN  
PERMIT PURSUANT TO RULE 219**

NONE

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### APPENDIX B: RULE EMISSION LIMITS [RULE 1113 11-8-1996]

- (1) Except as provided in paragraphs (c)(2), (c)(3), and (c)(4) of Rule 1113, the operator shall not supply, sell, offer for sale, apply, or solicit the application of, any architectural coating which, at the time of sale or manufacture, contains more than 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, and less any colorant added to tint bases, or manufacture, blend, or repackage such a coating for use within the District.
- (2) Except as provided in paragraphs (c)(3) and (c)(4) of Rule 1113, the operator shall not supply, sell, offer for sale, apply, solicit the application of, manufacture, blend, or repackage, for use within the District, any architectural coating listed in the Table of Standards which contains VOC (excluding any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the effective date specified.

#### TABLE OF STANDARDS

#### VOC LIMITS

#### Grams of VOC Per Liter of Coating, Less Water And Less Exempt Compounds

COATING	Limit*	Effective Date of Adoption	Effective 1/1/1998	Effective 1/1/1999	Effective 7/1/2001	Effective 1/1/2005	Effective 7/1/2008
Bond Breakers	350						
Clear Wood Finishes							
Varnish	350						
Sanding Sealers	350						
Lacquer	680		550			275	
Concrete-Curing Compounds	350						
Dry-Fog Coatings	400						
Fire-proofing Exterior Coatings	350	450		350			
Fire-Retardant Coatings							
Clear	650						
Pigmented	350						
Flats	250					100	
Graphic Arts (Sign) Coatings	500						50
Industrial Maintenance							

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### APPENDIX B: RULE EMISSION LIMITS [RULE 1113 11-8-1996]

Primers and Topcoats					
Alkyds	420				
Catalyzed Epoxy	420				
Bituminous Coatings	420				
Materials					
Inorganic Polymers	420				
Vinyl Chloride Polymers	420				
Chlorinated Rubber	420				
Acrylic Polymers	420				
Urethane Polymers	420				
Silicones	420				
Unique Vehicles	420				
Japans/Faux Finishing	350	700		350	
Coatings					
Magnesite Cement Coatings	600			450	
Mastic Coatings	300				
Metallic Pigmented Coatings	500				
Multi-Color Coatings	420		250		
Pigmented Lacquer	680		550		275
Pre-Treatment Wash Primers	780				
Primers, Sealers, and	350				
Undercoaters					
Quick-Dry Enamels	400				
Roof Coatings	300				
Shellac					
Clear	730				
Pigmented	550				
Stains	350				
Swimming Pool Coatings					
Repair	650				
Other	340				
Traffic Coatings	250		150		
Waterproofing Sealers	400				
Wood Preservatives					
Below-Ground	350				
Other	350				

\* The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS  
[RULE 1113 11-8-1996]**

**TABLE OF STANDARDS (cont.)**

**VOC LIMITS**

**Grams of VOC Per Liter of Material**

<b>COATING</b>	<b>Limit</b>
Low-Solids Coating	120

## **FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC**

### **APPENDIX B: RULE EMISSION LIMITS [RULE 1113 7-13-2007]**

- (1) Except as provided in paragraphs (c)(2), (c)(3), (c)(4), and specified coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage any architectural coating for use in the District which, at the time of sale or manufacture, contains more than 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, and less any colorant added to tint bases, and no person shall apply or solicit the application of any architectural coating within the District that exceeds 250 grams of VOC per liter of coating as calculated in this paragraph.
- (2) Except as provided in paragraphs (c)(3), (c)(4), and designated coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage, for use within the District, any architectural coating listed in the Table of Standards which contains VOC (excluding any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the effective date specified, and no person shall apply or solicit the application of any architectural coating within the District that exceeds the VOC limit as specified in this paragraph. No person shall apply or solicit the application within the District of any industrial maintenance coatings, except anti-graffiti coatings, for residential use or for use in areas such as office space and meeting rooms of industrial, commercial or institutional facilities not exposed to such extreme environmental conditions described in the definition of industrial maintenance coatings; or of any rust-preventative coating for industrial use, unless such a rust preventative coating complies with the Industrial Maintenance Coating VOC limit specified in the Table of Standards.

**FACILITY PERMIT TO OPERATE  
 BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS  
 [RULE 1113 7-13-2007]**

**TABLE OF STANDARDS  
 VOC LIMITS**

**Grams of VOC Per Liter of Coating,  
 Less Water and Less Exempt Compounds**

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date					
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/09
Bond Breakers	350							
Clear Wood Finishes	350					275		
Varnish	350					275		
Sanding Sealers	350					275		
Lacquer	680	550			275			
Clear Brushing Lacquer	680				275			
Concrete-Curing Compounds	350						100	
Concrete-Curing Compounds For Roadways and Bridges**	350							
Dry-Fog Coatings	400						150	
Fire-Proofing Exterior Coatings	450	350						
Fire-Retardant Coatings***								
Clear	650							
Pigmented	350							
Flats	250	100						50
Floor Coatings	420		100			50		
Graphic Arts (Sign) Coatings	500							
Industrial Maintenance (IM) Coatings	420			250		100		
High Temperature IM Coatings			420					
Zinc-Rich IM Primers	420		340			100		
Japans/Faux Finishing Coatings	700	350						
Magnesite Cement Coatings	600	450						
Mastic Coatings	300							
Metallic Pigmented Coatings	500							
Multi-Color Coatings	420	250						
Nonflat Coatings	250		150			50		
Nonflat High Gloss	250		150				50	

## FACILITY PERMIT TO OPERATE BOWERMAN POWER LFG, LLC

### APPENDIX B: RULE EMISSION LIMITS [RULE 1113 7-13-2007]

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date					
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Pigmented Lacquer	680	550			275			
Pre-Treatment Wash Primers	780		420					
Primers, Sealers, and Undercoaters	350		200			100		
Quick-Dry Enamels	400		250			150	50	
Quick-Dry Primers, Sealers, and Undercoaters	350		200			100		
Recycled Coatings			250					
Roof Coatings	300		250		50			
Roof Coatings, Aluminum	500				100			
Roof Primers, Bituminous	350		350					
Rust Preventative Coatings	420		400			100		
Shellac								
Clear	730							
Pigmented	550							
Specialty Primers	350					250	100	
Stains	350		250				100	
Stains, Interior	250							
Swimming Pool Coatings								
Repair	650		340					
Other	340							
Traffic Coatings	250	150					100	
Waterproofing Sealers	400		250			100		
Waterproofing Concrete/Masonry Sealers	400					100		
Wood Preservatives								
Below-Ground	350							
Other	350							

\* The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards.

\*\* Does not include compounds used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

\*\*\* The Fire-Retardant Coating category will be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated.

**FACILITY PERMIT TO OPERATE  
BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS  
[RULE 1113 7-13-2007]**

**TABLE OF STANDARDS (cont.)  
VOC LIMITS**

**Grams of VOC Per Liter of Material**

<b>COATING</b>	<b>Limit</b>
Low-Solids Coating	120

**FACILITY PERMIT TO OPERATE  
 BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS  
 [RULE 1171 11-7-2003]**

(1) Solvent Requirements

A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:

SOLVENT CLEANING ACTIVITY	CURRENT LIMITS
	VOC g/l (lb/gal)
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application	
(i) General	25 (0.21)
(ii) Electrical Apparatus Components & Electronic Components	500 (4.2)
(iii) Medical Devices & Pharmaceuticals	800 (6.7)
(B) Repair and Maintenance Cleaning	
(i) General	25 (0.21)
(ii) Electrical Apparatus Components & Electronic Components	900 (7.5)
(iii) Medical Devices & Pharmaceuticals	
(A) Tools, Equipment, & Machinery	800 (6.7)
(B) General Work Surfaces	600 (5.0)

**FACILITY PERMIT TO OPERATE  
 BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS  
 [RULE 1171 11-7-2003]**

SOLVENT CLEANING ACTIVITY	CURRENT LIMITS
	VOC g/l (lb/gal)
(C) Cleaning of Coatings or Adhesives Application Equipment	550 (4.6)
(D) Cleaning of Ink Application Equipment	
(i) General	25 (0.21)
(ii) Flexographic Printing	25 (0.21)
(iii) Gravure Printing	
(A) Publication	750 (6.3)
(B) Packaging	25 (0.21)
(iv) Lithographic or Letter Press Printing	
(A) Roller Wash – Step 1	600 (5.0)
(B) Roller Wash-Step 2, Blanket Wash, & On-Press Components	800 (6.7)
(C) Removable Press Components	25 (0.21)
(v) Screen Printing	750 (6.3)
(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)	800 (6.7)

**FACILITY PERMIT TO OPERATE**  
**BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS**  
**[RULE 1171 11-7-2003]**

SOLVENT CLEANING ACTIVITY	CURRENT LIMITS
	VOC g/l (lb/gal)
(vii) Specialty Flexographic Printing	600 (5.0)
(E) Cleaning of Polyester Resin Application Equipment	25 (0.21)

**FACILITY PERMIT TO OPERATE  
 BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS  
 [RULE 1171 5-1-2009]**

(1) Solvent Requirements

A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:

	<b>CURRENT LIMITS*</b>	<b>EFFECTIVE 1/1/2010</b>
<b>SOLVENT CLEANING ACTIVITY</b>	<b>VOC g/l (lb/gal)</b>	<b>VOC g/l (lb/gal)</b>
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application		
(i) General	25 (0.21)	
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)	
(iii) Medical Devices & Pharmaceuticals	800 (6.7)	
(B) Repair and Maintenance Cleaning		
(i) General	25 (0.21)	
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)	

**FACILITY PERMIT TO OPERATE  
 BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS  
 [RULE 1171 5-1-2009]**

	<b>CURRENT LIMITS*</b>	<b>EFFECTIVE 1/1/2010</b>
<b>SOLVENT CLEANING ACTIVITY (cont.)</b>	<b>VOC g/l (lb/gal)</b>	<b>VOC g/l (lb/gal)</b>
(iii) Medical Devices & Pharmaceuticals		
(A) Tools, Equipment, & Machinery	800 (6.7)	
(B) General Work Surfaces	600 (5.0)	
(C) Cleaning of Coatings or Adhesives Application Equipment	25 (0.21)	
(D) Cleaning of Ink Application Equipment		
(i) General	25 (0.21)	
(ii) Flexographic Printing	25 (0.21)	
(iii) Gravure Printing		
(A) Publication	100 (0.83)	
(B) Packaging	25 (0.21)	
(iv) Lithographic (Offset) or Letter Press Printing		
(A) Roller Wash, Blanket Wash, & On-Press Components	100 (0.83)	

**FACILITY PERMIT TO OPERATE**  
**BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS**  
**[RULE 1171 5-1-2009]**

	<b>CURRENT LIMITS*</b>	<b>EFFECTIVE 1/1/2010</b>
<b>SOLVENT CLEANING ACTIVITY (cont.)</b>	<b>VOC g/l (lb/gal)</b>	<b>VOC g/l (lb/gal)</b>
(B) Removable Press Components	25 (0.21)	
(v) Screen Printing	100 (0.83)	
(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)	650 (5.4)	100 (0.83)
(vii) Specialty Flexographic Printing	100 (0.83)	
(E) Cleaning of Polyester Resin Application Equipment	25 (0.21)	

\* The specified limits remain in effect unless revised limits are listed in subsequent columns.

## FACILITY PERMIT TO OPERATE

### BOWERMAN POWER LFG, LLC

#### APPENDIX B: RULE EMISSION LIMITS [RULE 404 2-7-1986]

The operator shall not discharge into the atmosphere from this equipment, particulate matter in excess of the concentration at standard conditions, shown in Table 404(a).

Where the volume discharged is between figures listed in the Table, the exact concentration permitted to be discharged shall be determined by linear interpolation.

For the purposes of this rule, emissions shall be averaged over one complete cycle of operation or one hour, whichever is the lesser time period.

**TABLE 404(a)**

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
		Milligrams per Cubic Meter	Grains per Cubic Foot			Milligrams per Cubic Meter	Grains per Cubic Foot
Cubic meters Per Minute	Cubic feet Per Minute			Cubic meters Per Minute	Cubic feet Per Minute		
25 or less	883 or less	450	0.196	900	31780	118	0.0515
30	1059	420	.183	1000	35310	113	.0493
35	1236	397	.173	1100	38850	109	.0476
40	1413	377	.165	1200	42380	106	.0463
45	1589	361	.158	1300	45910	102	.0445
50	1766	347	.152	1400	49440	100	.0437
60	2119	324	.141	1500	52970	97	.0424
70	2472	306	.134	1750	61800	92	.0402

**FACILITY PERMIT TO OPERATE**  
**BOWERMAN POWER LFG, LLC**

**APPENDIX B: RULE EMISSION LIMITS**  
**[RULE 404 2-7-1986]**

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
80	2825	291	.127	2000	70630	87	.0380
90	3178	279	.122	2250	79460	83	.0362
100	3531	267	.117	2500	88290	80	.0349
125	4414	246	.107	3000	105900	75	.0327
150	5297	230	.100	4000	141300	67	.0293
175	6180	217	.0947	5000	176600	62	.0271
200	7063	206	.0900	6000	211900	58	.0253
250	8829	190	.0830	8000	282500	52	.0227
300	10590	177	.0773	10000	353100	48	.0210
350	12360	167	.0730	15000	529700	41	.0179
400	14130	159	.0694	20000	706300	37	.0162
450	15890	152	.0664	25000	882900	34	.0148
500	17660	146	.0637	30000	1059000	32	.0140
600	21190	137	.0598	40000	1413000	28	.0122
700	24720	129	.0563	50000	1766000	26	.0114
800	28250	123	.0537	70000 or more	2472000 or more	23	.0100