

1500 N. Fort Hall Mine Road
Pocatello, Idaho 83204
(208) 236-0607

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DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

November 8, 2010

Idaho Department of Environmental Quality
Air Quality Division
1410 North Hilton
Boise, Idaho 83706-1255

Attn: William Rogers, Stationary Source Permit Program Coordinator

Subject: **Application for Title V Operating Permit**
Fort Hall Mine Road Landfill Waste-to-Energy Project – Bannock County, Idaho

Dear Mr. Rogers:

Please accept this package as our application for a Tier I, Title V Air Quality Operating Permit, submitted according to the requirements at IDAPA 58.01.01.321 *et seq.* for a landfill gas collection and control system and its integrated co-gen power plant at the Fort Hall Mine Road Landfill in Bannock County.

We believe that it is complete, based on published requirements as well as on our Pre-Application meeting. As needs arise, please feel free to contact our permitting team at the points of contact provided, e.g., in Section 0.4 of the Application. As indicated on Form GI, Bannock County requests the opportunity to review the draft permit prior to its final issuance.

We understand that DEQ will send us a Registration Fee Assessment once the Title V permit has been granted, and will look forward to paying that annual fee beginning within 45 days of our receipt of your assessment.

We look forward to hearing from you regarding the completeness of our application.

With best regards,

Therese Marchetti, Manager
Bannock County Solid Waste Department

**Application
for an
Air Quality Title V (Tier 1)
Operating Permit**

**Flare, and Internal Combustion Engine Exhaust Stack
Point Sources serving a
Landfill Gas Collection System
at the
Fort Hall Mine Road Landfill
Bannock County, Idaho**

to

Idaho Department of Environmental Quality
Air Quality Division
1410 North Hilton
Boise, Idaho 83706-1255
Attn: William Rogers
Stationary Source Permit Program Coordinator

by

Bannock County Solid Waste Department
1500 North Fort Hall Mine Road
Pocatello, Idaho 83204
Attn: Therese Marchetti
Manager

November 8, 2010

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Attachment 1 : Permit to Construct P2009.0146

Attachment 2 : Unbound Equipment-Specific Application Forms
(Included in original DEQ copy only. See pp 12 through 27)

Note re Color Highlighting in the Regulatory Applicability Analysis (Section 4) :

Yellow -- is used to highlight conditions that are key determiners of requirements

Blue -- is used to highlight requirements or conditions that do not apply

end

0.3 Acronyms and Abbreviations

AAC	[IDAPA58.01.01 §585] Acceptable Ambient Concentration, 24-hr average
AACC	[IDAPA58.01.01 §586] AAC for Carcinogen, annual average
AP-42	[EPA's] <i>Compilation of Air Pollutant Emission Factors</i> , 5 th Ed.
CAA	Clean Air Act of 1970
CAM	[Clean Air Act] Compliance Assurance Monitoring
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CH ₄	Methane
CO	Carbon Monoxide
CTAP	[Idaho] Toxic Air Pollutant, Carcinogenic
CWA	Clean Water Act of 1972
DEQ	Idaho Department of Environmental Quality
EPA	US Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act (SARA Title III)
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act of 1996
FR	Federal Register
GHG	Greenhouse Gas
HAP	[Clean Air Act] Hazardous Air Pollutant
HP	horsepower
HSWA	Hazardous and Solid Waste Amendments of 1984
IC	Internal Combustion
IDAPA	Idaho Administrative Procedures Act
LandGEM	[EPA's] <u>Landfill Gas Emissions Model</u> , Version 3.02, May, 2005.
LFG	Landfill Gas
Mg	mega gram, 10 ⁶ grams, metric ton
MSDS	Material Safety Data Sheet
MSW	Municipal Solid Waste
NAAQS	[Clean Air Act] National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NESHAP	[Clean Air Act] National Emissions Standards for Hazardous Air Pollutants
NMOC	Non-Methane Organic Compound
NO _x , NO ₂	Nitrogen Oxides, Nitrogen Dioxide
NPDES	[Clean Water Act] National Pollutant Discharge Elimination System
NSPS	[Clean Air Act] New Source Performance Standards
NSR	[Clean Air Act] New Source Review
PCB	polychlorinated biphenyls
PM-10	Particulate Matter less than 10 microns effective aerodynamic diameter
ppmv	parts per million, volume basis
PSD	[Clean Air Act] Prevention of Significant Deterioration
PTC	Permit to Construct
RCRA	Resource Conservation and Recovery Act of 1976
SARA	Superfund Amendments and Reauthorization Act of 1986
SIC	Standard Industrial Classification code
SO _x , SO ₂	Sulfur Oxides, Sulfur Dioxide
SSM	[Clean Air Act NSPS] Start-Up, Shut-Down and Maintenance
TAP	[Idaho] Toxic Air Pollutant
tpy	tons per year
TSCA	Toxic Substances Control Act of 1976
USC	United States Code, (Statutes) Annotated
UST	Underground Storage Tank

end

0.4 Points of Contact

Official correspondence related to this permit application should be directed to :

Owner:

Bannock County Solid Waste Department
Attn : Therese Marchetti, Manager
1500 North Fort Hall Mine Road
Pocatello, ID 83204

theresem@bannockcounty.us

office 208 236 0607

fax 208 236 0609

Technical Points of Contact :

- Owner's Engineer

Stephen Freiburger, P.E.
Paragon Consulting, Inc.
157 West 4th Street
Kuna, ID 83634

sfreiburger@paragonfbk.com

cell 208 921 8491

fax 208 922 9168

- Air Quality Meteorologist / Modeler :

Norman R. Ricks
EnergySolutions Performance Strategies, Inc.
1920 E 17th Street, Suite 200
Idaho Falls, ID 83404

nrricks@energysolutions.com

cell 505 217 4670

fax 208 535 3801

0.5 Executive Summary

LFG Collection and Co-Gen System Planned Bannock County plans to install a LFG collection system at its Fort Hall Mine Road Landfill (Facility 005-00062). Collected LFG will be piped to two air quality point sources -- an open flare and a lean-burn Caterpillar 3516 engine driving an electrical generator that is connected to the commercial power grid.

The Applicant's development plans call for an initial installation phase during which the LFG well field and gas collection system, including the gas-moving blower and flare will be installed. This system will be started and used to evaluate quantity and quality of the LFG production. The engine installation phase will follow characterization and validation of the LFG production.

PTC Issued A Permit-to-Construct [P2009.0146] was issued for this project on April 6, 2010. A copy of the PTC is provided as **Attachment 1**.

"Existing Large Landfill" not yet subject to NSPS requirements The planned LFG collection system, flare and generator will be installed voluntarily, in advance of any NSPS [40 CFR Part 60, Subpart WWW] requirement. On April 26, 2010, the landfill notified DEQ of the landfill's exceeding a Design Capacity of 2.5 M megagrams, the threshold for a "large landfill". The landfill will not become subject to the full scope of NSPS requirements until approximately 2024, when NMOC emissions are projected to exceed 50 Mg/yr (based on measured NMOC concentrations at the "Closed Cell" and the currently-used "Cell A", but using the conservative 4000 ppmv regulatory default for the planned future "Cell 4").

Not a Major Source The landfill is not a "designated facility". Its open flare and engine exhaust point sources are not "major sources" under IDAPA rules for either NAAQS or TAPs. The facility will not be subject to PSD rules.

Landfill Air Permitting Setting The Fort Hall Mine Road Landfill is located in complex terrain approximately 6 miles SE of Pocatello, Idaho. The area is "attainment or unclassified" for all NAAQS criteria pollutants. One sensitive receptor, Century High School, is located 1.5 miles NNW of the landfill gate. No adjacent air quality emissions sources exist in the 5 km-radius landfill study area. The landfill is fully fenced – ambient air is defined as air beyond the property boundary.

Impacts from Criteria Pollutants and TAP Emissions The year of maximum LFG production was identified using the EPA's LandGEM model as 2031. During the year of maximum LFG production, only NO₂ emissions from the engine are projected to exceed the significant emission rate (modeling threshold). None of the non-carcinogenic TAPs are projected to be emitted in amounts that exceed their respective ELs (modeling thresholds), either before or after control. Four Carcinogenic TAPs are projected to be emitted in amounts that exceed their respective ELs (modeling thresholds) after control, and therefore required modeling.

NO₂ Impacts were projected to be 22% of NAAQS, including Background. CTAP maximum impacts ranged from 0.28% to 1.29% of the AACCs. The point of maximum impact to ambient air by NO₂ is located approximately 200m N of the landfill's NW property line, at 5.45874 ug/m³, before considering a background concentration of 17 ug/m³. At Century High School, the only sensitive receptor in the study area, projected NO₂ impacts are less than 0.3 ug/m³, before considering background of 17 ug/m³.

Applicable Equipment-Specific Application Forms have been included in unbound format as **Attachment 2** of the Application. Scans of those same forms are also provided in this narrative portion of the Application. No DEQ “Control Device Forms” are applicable to the project. Similarly, no DEQ “Industrial Category Specific Forms” are applicable to the project.

Only Forms **EU0** and **EU1** are applicable “Emissions Unit Specific Forms”, given the proposed design.

- Form **EU0** addresses criteria pollutant emissions from the open flare. Flare emission data used in Form **EU0** is taken from the criteria pollutant emissions inventory used in the PTC, with separate calculation for SO₂ emissions derived from sulfur-containing landfill gases. Both of these forms are provided as they appear in the PTC.
- Form **EU1** addresses criteria pollutant emissions from the Caterpillar Model 3516 spark-ignition internal combustion engine. Engine emission data used in Form **EU1** is taken from the criteria pollutant engine emissions inventory used in the PTC, based on the manufacturer’s published emissions from the engine under typical and maximum loads. Both the engine emissions inventory and the manufacturer’s backup sheets are provided.

Compliance Assurance Monitoring is not applicable to this project. The CAM Rule (40 CFR 64 *et seq.*) applies to pollutant-specific emissions units that are located at Major Sources. The landfill, flare, and engine that are part of this project design are not major sources for any pollutant, based on criteria pollutant emissions or on Toxic Air Pollutants.

Emissions Inventory

- Form **EI-CP 1** (Criteria Pollutant Point Source Emissions) is provided with backup calculations to provide an emissions inventory for Criteria Pollutants from the flare and from the engine in terms of both short term (hourly) and long term (annual) emissions during the year of maximum landfill gas production, estimated to be year 2031. The source schedule assumes 24-hour per day, 365-day per year operation, so the pounds-per hour short-term emissions and the ton-per-year annual emissions have an identical emissions rate. NO_x emissions from the engine are 45.4 tpy and corresponding NO_x emissions from the flare are 2.5 tpy. CO emissions from the engine are 24.2 tpy and corresponding CO emissions from the flare are 2.9 tpy.
- Because the Ft. Hall Mine Road Landfill has not previously permitted any air quality sources, the data on Form **EI-CP 3** (Criteria Emissions Increase – Point Sources) are identical to those on Form **EI-CP 1**, i.e., the increase is the same as the point source emissions inventory for criteria pollutants.

DEQ Form FRA is provided as a header sheet to the regulatory analyses of applicability of provisions of federal NSPS and NESHAPS requirements. 40 CFR 60 Subparts JJJJ and WWW have many NSPS provisions that are applicable to the project. The NESHAPS provisions of 40 CFR 61 and 40 CFR 63 were evaluated, with the finding that they were not applicable to the project because the landfill was not a major source [Part 63] nor did it incorporate a bioreactor or handle volatile HAPs as those terms are defined in the regulation [Part 61].

Using an annotated copy of the text of the regulation, the extensive requirements of NSPS 40 CFR 60 Subpart JJJJ (Spark Ignition Internal Combustion Engines) and NSPS 40 CFR 60 Subpart WWW (Municipal Solid Waste Landfills) are individually evaluated in Sections 2.6.1 and 2.6.2 in the text for applicability to this project.

Additional Required Information

Section 3 of the Application provides annotated diagrams and tables such as

- Plot Plan
- Equipment Location Drawing
- Equipment Description
- Fuel and Burners Used
- Operating Schedule
- Process Description
- Process Flow Diagram
- Process Rate
- MSDS
- Other Data needed to Process Application

that are designed to aid the evaluation of the application.

Assessment of Applicable Requirements The text and narrative regulatory analyses provided in Sections 2.6.1 through 2.6.3 for the Clean Air Act NSPS and NESHAPS requirements are augmented in Section 4 to include all regulatory requirements (federal, state, and local) that might logically have a connection to the landfill and to the proposed project. Those federal regulations that have been delegated to Idaho DEQ are addressed as State of Idaho requirements. No local (Bannock County) environmental regulatory requirements were identified for this assessment.

Proposed Determination of Non-Applicability The table provided in Section 4 provided the basis for a proposed determination of non-applicability for those regulations at this time, based on current project design and landfill operating characteristics. The Applicant anticipates that the analysis for regulatory applicability will be modified in coming years as the design matures and these operating parameters change.

Alternative Operating Scenarios No Alternative Operating Scenarios are proposed by the Applicant in conjunction with this Title V Permit Application.

Compliance Certifications Acknowledging that there are a number of regulatory requirements that are not currently applicable, but will become applicable in approximately 2024 (when the landfill's NMOC emissions are expected to exceed 50 Mg/yr, and the full breadth of the NSPS for MSW Landfills will apply) as well as in the period when the landfill closes (sometime after 2031) the Applicant affirms in Section 7.0 that they are currently in compliance with all applicable regulatory requirements, and so certifies.

Compliance Plans Because to the best of Applicant's knowledge, Applicant is currently in compliance with all applicable regulatory requirements, and has so certified, no Schedules and Plans for coming into compliance are applicable.

Trading Scenarios No trading scenarios are proposed by the Applicant in conjunction with this Title V Permit Application.

Insignificant Activities Based on Size or Production Rate The Applicant has reviewed the list of activities that have been deemed by Idaho DEQ [IDAPA 58.01.01.317.1(b)] to be insignificant on the basis of size or production rate. We find that this exemption is applicable to the Flare – flare emissions are less than 10% of the IDAPA 58.01.01.006 (104) significance levels for all pollutants, with no TAP or CTAP emission exceeding 1 tpy.

For the Cat 3516 engine, however, this test fails for CO (24 tpy / 100 tpy of significance threshold), and for NOx (45 tpy / 40 tpy of significance threshold). Almost all the Insignificant Activities that are listed in IDAPA 58.01.01.317.1(b) are not applicable to the proposed project. The propane tank that supplies fuel to the flare's pilot light qualifies as insignificant on the basis of its size and burner Btu rating.

Acid Rain Program Requirements The air quality emissions sources at Bannock County's Fort Hall Mine Road Landfill are not subject to the Acid Rain program requirements of 40 CFR 72.6, Subpart C, since, at maximum capacity, the generator(s) will be producing only 6% of the threshold electrical power needed for consideration in the Acid Rain Program.

Permit Shield In Section 12 of the Application, the applicant requests that Permit Shield provisions be granted in the Title V Permit in 31 points of regulation.

The most important points involve assurances that, in light of the Permittee's voluntary installation of LFG collection and control system, and since landfill NMOC production is less than 50 Mg/yr, compliance with requirements involving

- Collection and Control System Specifications, including no present LFG collection on "Closed Cell"
- Operational Standards, Compliance Provisions, including Control System Design Plan
- Test Methods and Procedures
- Monitoring of Operations
- Recordkeeping and Reporting

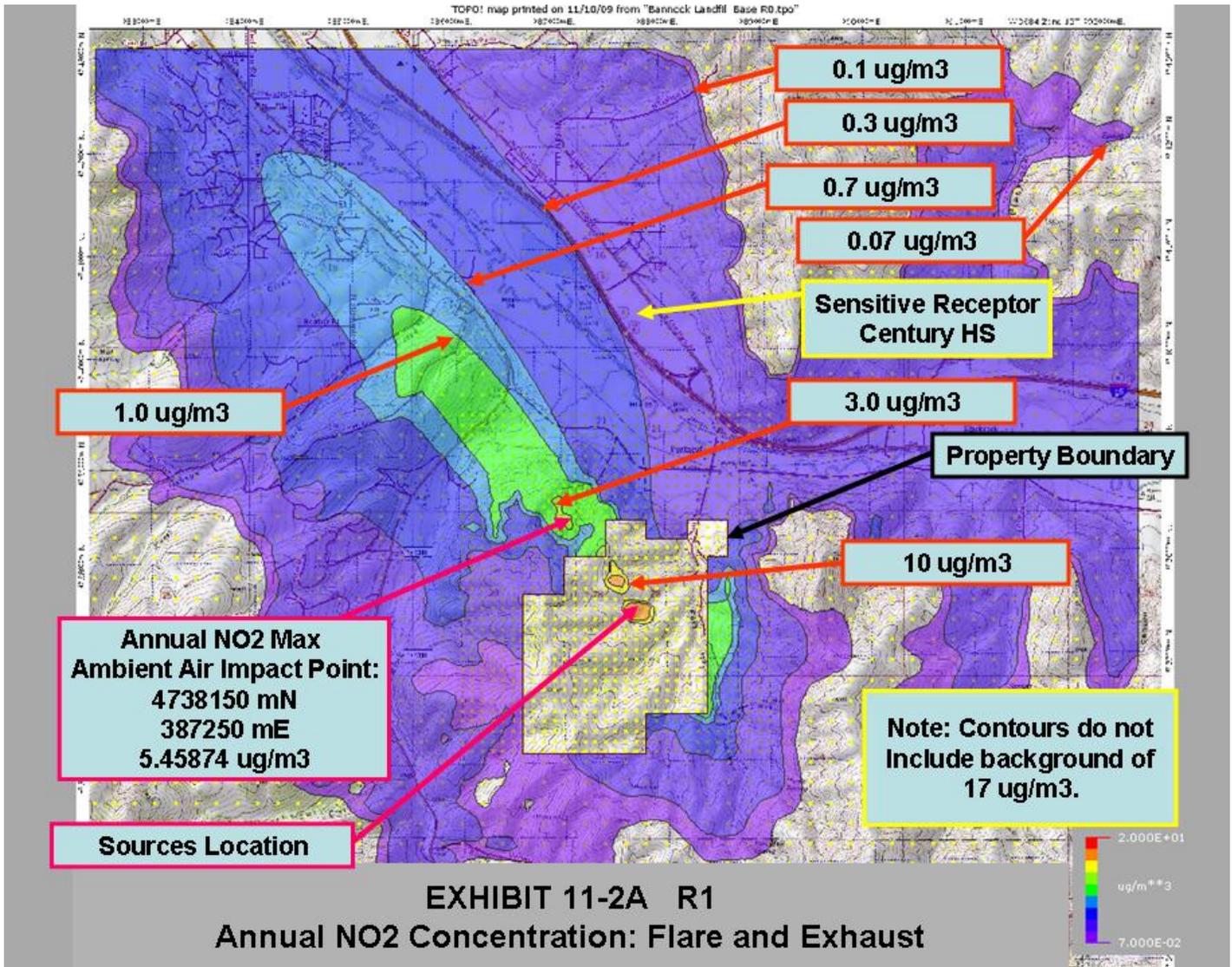
of this section is not required until NMOC production exceeds 50 Mg/yr (in approximately 2024), and that the previous Initial Design Capacity Report and Amended Design Capacity Reports are accepted as compliant. The permit shield for these requirements is requested through December 31, 2024, which is our best estimate of the point in time when the landfill will be producing in excess of 50 Mg/yr NMOC, and these exclusions will become non-applicable.

Another set of Permit Shield requests involve the Regulator's recognition that

- given the Permittee installs a Certified Engine and operates it according to manufacturer's directions, no performance monitoring will be required
- Permittee's continued use of Tier 2 sampling procedures and Method 25A analytical procedures is approved for annual NMOC quantification and reporting
- NEPA, CERCLA/SARA/EPCRA, FIFRA, TSCA, CWA/NPDES, and RCRA Subtitle C are not applicable, given the landfill's design and operating practices.
- NESHAPS for Landfills (40 CFR 63 Subpart AAAA) and CAMS are not applicable to this project because, e.g., the landfill project does not contain a major source.
- The permittee is not a manufacturer of engines; the proposed engine is not modified, reconstructed, an emergency engine, nor is it a mobile source.

Certification of Documents The Application is certified using DEQ-approved text by the Owner's Representative in two places: The bottom of Form **GI**, and in Section 13 of the Application text.

As indicated on Form **GI**, Bannock County requests the opportunity to review the draft permit prior to its final issuance.



1.0 General Facility Information

1.1 **DEQ Form CSTI : Cover Sheet** is included in the forms submitted in unbound format (see Attachment 2) with the Application.



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

Cover Sheet for Air Permit Application – Tier I **Form CSTI**
Revision 5
08/28/08

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

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Bannock County Solid Waste Department		
2. Facility Name	.Ft. Hall Mine Road Landfill, Bannock County, ID	3. Facility ID No.	005-00062
4. Brief Project Description - One sentence or less	Municipal Solid Waste Landfill gas collection system with open flare and spark-ignition internal combustion engine		
PERMIT APPLICATION TYPE			
5. <input checked="" type="checkbox"/> Initial Tier I	<input type="checkbox"/> Tier I Administrative Amendment	<input type="checkbox"/> Tier I Minor Modification	<input type="checkbox"/> Tier I Significant Modification
<input type="checkbox"/> Tier I Renewal: Permit No.:		Date Issued:	
FORMS INCLUDED			
Included	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form CSTI – Cover Sheet	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: <u>1</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4– Cooling Tower Information	Please specify number of EU4s attached: _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU5 – Boiler Information	Please specify number of EU5s attached: _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP– Concrete Batch Plant	Please Specify number of CBPs attached: _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached: _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERF – Portable Equipment Relocation Form	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form BCE– Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE– Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form VSCE – Venturi Scrubber Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form ESP – Electrostatic Precipitator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form AO – Afterburner/Oxidizer	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CYS – Cyclone Separator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CA – Carbon Adsorber	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Forms EI-CP1 - EI-CP4– Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CAM – Compliance Assurance Monitoring	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>

1.2 **DEQ Form GI : Facility Information** is included in the forms submitted in unbound format (see Attachment 2) with the Application.



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

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

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

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

IDENTIFICATION	
1. Company Name	2. Facility Name:
Bannock County Solid Waste Dept.	Ft. Hall Mine Road Landfill, Bannock County, ID
3. Brief Project Description:	Municipal Solid Waste Landfill, with landfill gas collection system, flare, and engine/generator tied to commercial electric grid.
FACILITY INFORMATION	
4. Primary Facility Permit Contact Person/Title	Therese Marchetti Manager, Bannock Cty Solid Waste Dept
5. Telephone Number and Email Address	(208) 236-0607 theresem@bannockcounty.us
6. Alternate Facility Contact Person/Title	Norman R. Ricks Consultant, Permit Lead
7. Telephone Number and Email Address	cell (505) 217-4670 nrricks@energysolutions.com
8. Address to Which the Permit Should be Sent	1500 North Fort Hall Mine Road
9. City/County/State/Zip Code	Pocatello Bannock ID 83204
10. Equipment Location Address (if different than the mailing address above)	same
11. City/County/State/Zip Code	
12. Is the Equipment Portable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
13. SIC Code(s) and NAICS Code	Primary SIC: 4953 Secondary SIC: NAICS: 562212
14. Brief Business Description and Principal Product	Municipal Solid Waste Landfill; waste disposal
15. Identify any adjacent or contiguous facility that this company owns and/or operates	None
16. Specify the reason for the application	<input type="checkbox"/> Permit to Construct (PTC) <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit. <input type="checkbox"/> Incorporate the PTC at the time of the Tier I renewal <input type="checkbox"/> Co-process the Tier I modification and PTC <input type="checkbox"/> Administratively amend the Tier I permit to incorporate the PTC upon your request (IDAPA 58.01.01.209.05.a, b, or c) </div> <input checked="" type="checkbox"/> Tier I Permit <input type="checkbox"/> Tier II Permit <input type="checkbox"/> Tier III/Permit to Construct
CERTIFICATION	
In accordance with IDAPA 58.01.01.123 (Rules for the Control of Air Pollution in Idaho), I certify based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.	
17. Responsible Official's Name/Title	Therese Marchetti Manager, Bannock Cty Solid Waste Dept
18. Responsible Official's Signature	Date:
19. <input checked="" type="checkbox"/> Check here to indicate that you would like to review the draft permit prior to final issuance.	

2.0 Applicable Equipment-Specific Application Forms

2.1 Control Devices

The Project does not include any DEQ-listed control devices, e.g.,

- Afterburner
- Carbon Absorber
- Cyclone Separator
- Electrostatic Precipitator
- Baghouse
- Scrubber
- Venturi Scrubber

2.2 Industrial Category Specific Forms

The Project does not include any DEQ-listed Industrial Category Specific Forms, e.g.,

- Non-Metallic Mineral Processing
- Hot-Mix Asphalt
- Concrete Batch Plant

2.3 Emissions Unit Specific Forms

The Project does include two DEQ-named specific emissions :

- One open Flare General Emissions Unit
- One lean-burn Caterpillar 3516 spark-ignition internal combustion stationary engine

*Copies of the forms are submitted in unbound format and
are included as **Attachment 2** of the Application*

2.3.1 DEQ Form EU0 : Flare F1-- General Emissions Units is included in the forms submitted in unbound format (see Attachment 2) with the Application.



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

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

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

IDENTIFICATION							
1. Company Name: Bannock County Solid Waste Department		2. Facility Name: Ft. Hall Mine Road Landfill, Bannock County		3. Facility ID No: 005-00062			
4. Brief Project Description: Solid Waste Landfill with gas collection system, open flare, and internal combustion engine/generator							
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION							
5. Emissions Unit (EU) Name:		LANDFILL GAS					
6. EU ID Number:		G1					
7. EU Type:		<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:		Date Issued:			
8. Manufacturer:		CMI ENERGY, LLC.					
9. Model:		FA2-1500 OPEN CANDLE FLARE					
10. Maximum Capacity:		1500 CFM					
11. Date of Construction:		PENDING					
12. Date of Modification (if any):		N/A					
13. Is this a Controlled Emission Unit?		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.					
EMISSIONS CONTROL EQUIPMENT							
14. Control Equipment Name and ID:		LANDFILL GAS FLARE F1					
15. Date of Installation:		pending		16. Date of Modification (if any): n/a			
17. Manufacturer and Model Number:		CMI ENERGY LLC FA2-1500 Open Candle Flare					
18. ID(s) of Emission Unit Controlled:		G1 LANDFILL GAS COLLECTION MANIFOLD					
19. Is operating schedule different than emission units(s) involved?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
20. Does the manufacturer guarantee the control efficiency of the control equipment?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)					
		Pollutant Controlled					
		PM	PM10 0.02735 g/sec	SO ₂ 0.02293 g/sec	NO _x 0.07252 g/sec	VOC >98% NMOC	CO 0.084705 g/sec
Control Efficiency							
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. Ref: AP-42 5 th Ed.DRAFT Table 2.4-4							
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)							
22. Actual Operation:		8760 HRS/YEAR					
23. Maximum Operation:		8760 HRS/YEAR					
REQUESTED LIMITS							
24. Are you requesting any permit limits?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If Yes, indicate all that apply below)					
<input type="checkbox"/> Operation Hour Limit(s):							
<input type="checkbox"/> Production Limit(s):							
<input type="checkbox"/> Material Usage Limit(s):							
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports					
<input type="checkbox"/> Other:							
25. Rationale for Requesting the Limit(s):		N/A					

2.3.2 DEQ Form EU1 : Industrial Engine Information is included in the forms submitted in unbound format (see Attachment 2) with the Application.



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

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

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

IDENTIFICATION				
1. Company Name: Bannock County Solid Waste Dept.		2. Facility Name: Ft. Hall Mine Road Landfill		
3. Brief Project Description: Solid Waste Landfill with gas collection system, flare, and IC engine/electrical generator				
ENGINE (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS				
4. Type of Unit: <input checked="" type="checkbox"/> New Unit <input type="checkbox"/> Unpermitted Existing Unit <input type="checkbox"/> Modification to a Unit with Permit # Date Issued:				
5. Engine Displacement: 4.3125 (liters per cylinder)		6. Ignition Type: <input type="checkbox"/> Compression <input checked="" type="checkbox"/> Spark		
7. Use <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Non-Emergency				
8. Engine ID Number: Pending		9. Maximum Rated Engine Power: <u>1148</u> Brake Horsepower (bhp)		
10. Construction Date: Pending		11. Manufacturer: Caterpillar	12. Model: G3516LE 1148 max hp	13. Model Year: 2010
14. Date of Modification (if applicable): n/a		15. Serial Number (if available): Pending	16. Control Device (if any): None	
FUEL DESCRIPTION AND SPECIFICATIONS				
17. Fuel Type	<input type="checkbox"/> Diesel Fuel (#) (gal/hr)	<input type="checkbox"/> Gasoline Fuel (gal/hr)	<input type="checkbox"/> Natural Gas (cf/hr)	<input checked="" type="checkbox"/> Other Fuels (unit:BTU/hp-hr)
18. Full Load Consumption Rate	N/A	N/A	N/A	7897
19. Actual Consumption Rate	N/A	N/A	N/A	8144
20. Sulfur Content wt%	N/A	N/A	N/A	0.00435 %
OPERATING LIMITS & SCHEDULE				
21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.): 8760 hours/year				
22. Operating Schedule (hours/day, months/year, etc.): 24 Hours/day, 365 days/year				

2.3.2A Backup Data : Cat 3516 Displacement is included in the forms submitted in unbound format (see Attachment 2) with the Application.

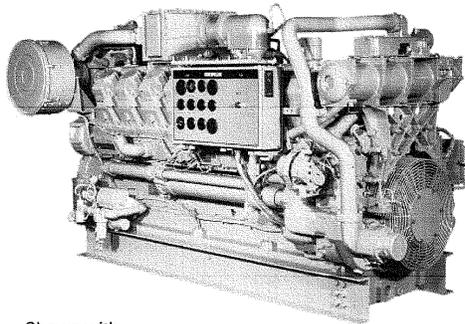


Gas Industrial Engine

G3516

660-1340 hp

Standard and Low Emission



Shown with
Optional Equipment

16 CYLINDERS

SPECIFICATIONS

V-16, 4-Stroke-Cycle, Spark Ignited	
Bore—in (mm)	6.7 (170)
Stroke—in (mm)	7.5 (190)
Displacement—cu in (L)	4211 (69.0)
Compression Ratio	
STD	9:1
LE	8:1
Aspiration	Naturally Aspirated or Turbocharged-Aftercooled
Lube Oil Capacity — gal (L)	
STD*	153 (580)
STD**	171 (646)
LE	106 (402)
Jacket Water System — gal (L)	
Capacity w/o Radiator	53 (205)

* Oil fill capacity with 21 elements
** Oil fill capacity without elements



FEATURES

■ DIESEL STRENGTH

All Caterpillar® gas engines are built on diesel frames which means greater service life. Caterpillar gas engines inherit more from their diesel counterparts than just strength. They are backed by the same support system recognized as one of the most sophisticated and dependable in the world.

■ APPLICATION FLEXIBILITY

Broad operating speed range and ability to burn a wide spectrum of gaseous fuels.

■ LOW EMISSIONS

Low emission engines are capable of NO(x) levels as low as 2.0 grams/hp-hr. Lower emissions may be achievable for selected applications. Consult your Caterpillar dealer.

■ CATERPILLAR® GAS ENGINES

Represent the latest technology in engine design. Engines are offered in both naturally aspirated and turbocharged/aftercooled configurations.

TA is offered as standard and low emission.

These different configurations offer:

- High energy ignition systems for consistent firing
- High efficient combustion chamber for complete burning of the fuel.
- Modern component design such as deep cup, oil gallery piston.

■ ELECTRONIC IGNITION SYSTEM WITH DETONATION SENSITIVE TIMING

The Caterpillar electronic ignition system provides optimized spark timing for all operating conditions. Timing is automatically controlled to maintain continuous detonation protection.

2.3.2B Backup Data : PTC EX 8-2B Caterpillar Spec Sheet
is included in the forms submitted in unbound format (see Attachment 2) with the Application.

G3516 LE Gas Generator Set Engine Performance



Engine Speed (rpm)	1200	Fuel	LANDFILL
Compression Ratio	11.0:1	LHV of Fuel (Btu/SCF)	545
Aftercooler Inlet Temperature (°F)	130	Fuel System	LPG IMPCO
Jacket Water Outlet Temperature (°F)	230		
Ignition System	EIS	Minimum Fuel Pressure (psig)	1.5
Exhaust Manifold	WATER COOLED	Methane Number at Conditions Shown	130
Combustion System Type	LOW EMISSION	Rated Altitude (ft)	2500

at 77°F Design Temperature

Engine Rating Data

	% Load	100%	75%	50%
Engine Power (w/o fan)	bhp	1148	861	574
Generator Set Power (w/o fan)	kW	815	611	408

Engine Data

Specific Fuel Consumption (BSFC) (1)	Btu/bhp-hr	7897	8144	8911
Air Flow (Wet, @ 77°F, 28.8 in Hg)	SCFM	2097	1433	936
Air Mass Flow (Wet)	lb/hr	9300	6352	4150
Compressor Out Pressure	in. HG (abs)	67	60.9	45.8
Compressor Out Temperature	°F	290	253	183
Inlet Manifold Pressure	in. HG (abs)	62.6	45.5	31.3
Inlet Manifold Temperature (10)	°F	149	147	149
Timing (11)	°BTDC	20	20	20
Exhaust Stack Temperature	°F	847	865	887
Exhaust Gas Flow (Wet, @ stack temperature, 29.7 in Hg)	CFM	6035	4244	2851
Exhaust Gas Mass Flow (Wet)	lb/hr	10495	7280	4812

Engine Emissions Data

Nitrous Oxides (NOx as NO2) (9)	(Corr. 15% O2)	g/bhp-hr ppm	2.0 143	6.0 426	8.8 561
Carbon Monoxide (CO) (9)	(Corr. 15% O2)	g/bhp-hr ppm	3.0 352	3.2 374	3.0 310
Total Hydrocarbons (THC) (9)	(Corr. 15% O2)	g/bhp-hr ppm	2.7 551	2.0 407	2.1 385
Non-Methane Hydrocarbons (NMHC) (9)	(Corr. 15% O2)	g/bhp-hr ppm	0.40 34	0.30 23	0.32 19
Exhaust Oxygen (9)		%	6.3	4.9	2.9
Lambda			1.31	1.16	1.06

Engine Heat Balance Data

Input Energy LHV (1)	Btu/min	151085	116858	85242
Work Output	Btu/min	48703	36527	24351
Heat Rejection to Jacket (2) (6)	Btu/min	42129	36469	30533
Heat Rejection to Atmosphere (Radiated) (4)	Btu/min	5225	4355	3484
Heat Rejection to Lube Oil (5)	Btu/min	8813	7629	6387
Total Heat Rejection to Exhaust (to 77°F) (2)	Btu/min	39689	28320	19478
Heat Rejection to Exhaust (LHV to 350°F) (2)	Btu/min	24766	18075	12597
Heat Rejection to Aftercooler - stage 1 (3) (7) (8)	Btu/min	6525	3558	1009

2.4 Compliance Assurance Monitoring (CAM)

The CAM Rule (40 CFR 64 *et seq.*) applies to pollutant-specific emissions units that are located at Major Sources. The landfill, flare, and engine that are part of this project design are NOT major sources for any pollutant, based on criteria pollutant emissions or on Toxic Air Pollutants.

Additionally, the CAM Rule exempts certain standards, including NSPS standards that were developed post 11-15-90. The MSW Landfill NSPS regulations (40 CFR 60 Subpart WWW) were implemented 3-12-96, since those standards were designed with monitoring provisions that provide a reasonable assurance of compliance.

2.5 Emissions Inventory

DEQ Forms are used in the following sections to provide the emissions inventory for point sources, and for fugitive emissions for the project.

2.5.1 (Form EI-CP 1) presents the point source emissions inventory for criteria pollutants. The data are taken directly from the emissions inventory that was approved for the Project's Permit to Construct, and are based on the landfill's maximum LFG generation, which is projected to occur in 2031. The source schedule assumes 24-hour per day, 365-day per year operation, so the pounds-per hour short-term emissions and the ton-per-year annual emissions have an identical emissions rate.

2.5.2 Because the Ft. Hall Mine Road Landfill has not previously permitted any air quality source, the data on Form EI-CP 3 (Criteria Emissions Increase – Point Sources) are identical to those on Form EI-CP 1, i.e., the increase is the same as the point source emissions inventory for criteria pollutants.

Backup Calculations : From PTC EX 8-2 R1 CRITERIA POLLUTANT EMISSIONS – ENGINE is included in the forms submitted in unbound format (see Attachment 2) with the Application.

Source: PTC EXHIBIT 8-2 R1

**NAAQS CRITERIA
POLLUTANT EMISSIONS --
ENGINE**

Landfill LFG Generation (at max year = 2031)		487.0 scfm		15,926,469 BTU/hr from available LFG	
7,254,000 m3/yr		827.5 m3/hr	29223 scf/hr	1956 bhp available from LFG at max year	
Note: This panel for comparison power rating at 75%.					
CAT G3516LE Engine Performance Specifications					
Engine Power Rating (at 75%)=		861 BHP	Derated to	784 BHP	6,380,905 BTU/hr
(Source : EX 8-2B: Caterpillar "Gas Generator Set Engine Performance" sheet DM5153-00)					
De-Rate Factor at		5000 ft and	80 deg F =	0.91	
(Source : EX 8-2B: Caterpillar "Gas Generator Set Engine Performance" sheet DM5153-00, Page 2)					
LFG LHV		545 BTU/scf	11708 scf/hr	331.5 m3/hr	
Fuel Consumption		8144 BTU/bhp-hr	195 scfm		
at 75% load		g/ bhp-hr	at 784 bhp	% of AP-42	
NOx		6	4701 g/hr	45.43 tpy	1.30585 g/sec
CO		3.2	2507 g/hr	24.23	0.69645 g/sec
THC		2	1567 g/hr		0.43528 g/sec
NMHC [NMOC]		0.3	235 g/hr	2.27	0.06529 g/sec
Exhaust O2		4.9			
lambda		1.16			
Note: Emission rates in Gray-Shaded cells are used in the modeling					
at max year		1602 Mg CH4	corresponds to	10.33 Mg NMOC	
		2401000 M3 CH4	corresponds to	2881 M3 NMOC	
		4302.374 Kg/1.0E6 dscm			2206.88
(Source : LandGEM model "New Cell 4 0.02 100 600" for year 2031)					
For Comparison :					
at max year		818.2 Mg CH4	corresponds to	4.536 Mg NMOC	
		1226000 M3 CH4	corresponds to	1268 M3 NMOC	
		3699.837 Kg/1.0E6 dscm			
(Source : LandGEM model "Existing Cell 4 0.02 100 516" for year 2031)					
EPA Emission Factors from AP-42 5th Ed DRAFT Table 2.4-4					
Note: This panel is for comparison with the NOx and CO emissions calculated using engine-specific data					
IC Engine (50100421)		Kg/1.0E6 dscm	g/m3	at 331.5 m3/hr	
NO2		11620	11.62	3853 g/hr	1.070145 g/sec
SO2		[Controlled Emission -- See EXHIBIT 8-2A]			0.010089 g/sec
PM-10		232	0.232	77 g/hr	0.021366 g/sec
Note: Because engine-specific particulate emissions data are not available, this AP-42 factor is used in the modeling					
CO		8462	8.462	2806 g/hr	0.779309 g/sec
Pb		[No lead is known as a LFG constituent]			0.00 g/sec

Backup Calculations : From PTC EX 8-5 R1 NAAQS Criteria Emissions is included in the forms submitted in unbound format (see Attachment 2)with the

Source: PTC EXHIBIT 8-5 R1

Bannock County
Fort Hall Mine Road Landfill
Criteria Pollutant Emission Rates vs Modeling Thresholds

FLARE (AS CONTROL DEVICE) EMISSIONS (100% Duty Cycle)									
NAAQS Criteria Pollutant	Emission Factor (source AP-42, Table 2.4-4) (kg/1.00E+6 dscm CH4)	g/sec	0.575635	lb/hr				Significant Emission Rates [Modeling Thresholds] (tpy) lbs/hr	
NO2	631	0.07253	2288.6	Kg/yr, or	2.5	tpy, vs	7		
			0.143670	lb/hr					
SO2	See AP-42 p2.4-10	0.0181025	880.7	Kg/yr, or	1.0	tpy, vs	7		
			100% of full LFG flow		1.0		3.9447	0.9	
			0.217095	lb/hr					
PM-10	238	0.027354	863.2	Kg/yr, or	0.952	tpy, vs	7		
			0.672262	lb/hr	0.952		3.9447	0.9	
CO	737	0.084705	2673.1	Kg/yr, or	2.9	tpy, vs	306.81	70	
Pb	not specified	0	0	lb/hr	0.0		0.6		
O3	not specified	n/a	#VALUE!	lb/hr	n / a		40		
							(of VOCs)		
BASIS	3,626,952	m3 CH4 / yr at 100% RH, 1 atmosphere, and 25 C							
	CH4 at year of maximum LFG production from Current Cell A and Future Cell 4 (source: EX 7-6: LandGEM v302 see spreadsheet "CH4 by Cell by Yr")								
TOTAL NAAQS EMISSIONS (FLARE)					7.4	tpy			
INTERNAL COMBUSTION ENGINE (AS CONTROL DEVICE) EMISSIONS (100% Duty Cycle, 75% Power Rating)									
NAAQS Criteria Pollutant	Emission Factor Source: Exhibit 8-2 from Exhibit 8-2B	g/sec	10.363889	lb/hr				Significant Emission Rates [Modeling Thresholds] (tpy) lbs/hr	
NO2	6	1.305850	41209.5	Kg/yr, or	45.4	tpy, vs	7		
			g/bhp-hr at 75% power						
SO2	See AP-42 p2.4-10 Source: Exhibit 8-2A	0.007965	251.4	Kg/yr, or	0.3	tpy, vs	7		
			44% of full LFG flow, based on BTUs used		0.3		3.9447	0.9	
			0.169572	lb/hr					
PM-10	232 (kg/1.00E+6 dscm CH4)	0.021366	674.3	Kg/yr, or	0.7	tpy, vs	7		
			5.527405	lb/hr	0.0		3.9447	0.9	
CO	3.2	0.696453	21978.4	Kg/yr, or	24.2	tpy, vs	306.81	70	
			g/bhp-hr at 75% power						
Pb	n / a	0.000000	0	lb/hr	0.0		0.6		
O3	2	0.435283	3.454627	lb/hr	15.1	tpy, vs	40		
			g of THC/bhp-hr at 75% power				(of VOCs)		
TOTAL NAAQS EMISSIONS (ENGINE)					85.8	tpy			

2.6 Other Applicability Forms – Form FRA (Federal Requirements Applicability)

DEQ Form FRA is used in this section to summarize the applicability of NSPS and NESHAP to the Project, and to present the Regulatory Analyses that provide essential details. These are provided in sections:

- 2.6.1 --- Regulatory Analysis : NSPS 40 CFR 60 Subpart JJJJ
- 2.6.2 --- Regulatory Analysis : NSPS 40 CFR 60 Subpart WWW
- 2.6.3 --- Regulatory Analysis : NSPS 40 CFR 63 Subpart AAAA

DEQ Form FRA (Federal Requirements Applicability)
is included in the forms submitted in unbound format with the Application.

NSPS/NESHAP Regulation Review and Applicability Form **FRA**



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

AIR PERMIT APPLICATION

Revision 6
10/7/09

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

IDENTIFICATION	
1. Company Name: Bannock County Solid Waste Department	2. Facility Name: Ft. Hall Mine Road Landfill
3. Brief Project Description: Municipal Solid Waste Landfill gas extraction system, with open flare and spark-ignition internal combustion engine.	
APPLICABILITY DETERMINATION	
4. List applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). Examples of NSPS affected emissions units include internal combustion engines, boilers, turbines, etc. The applicant must thoroughly review the list of affected emissions units.	List of applicable subpart(s): Subpart JJJJ -- Stationary Spark Ignition Internal Combustion Engines Subpart WWW -- Municipal Solid Waste Landfills <input type="checkbox"/> Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR part 61 and 40 CFR part 63 . Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. EPA has a web page dedicated to NESHAP that should be useful to applicants.	List of applicable subpart(s): Subpart AAAA -- Municipal Solid Waste Landfills <input type="checkbox"/> Not Applicable
6. For each subpart identified above, conduct a complete a regulatory analysis using the instructions and referencing the example provided on the following pages. Note - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation applies. Regulatory reviews that are submitted with insufficient detail will be determined incomplete.	<input checked="" type="checkbox"/> A detailed regulatory review is provided (Follow instructions and example). <input type="checkbox"/> DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.
IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT	
<p><i>It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand what those requirements are prior to the application being submitted but that DEQ will not perform the required technical or regulatory analysis on the applicant's behalf.</i></p>	

[Code of Federal Regulations]
[Title 40, Volume 6]
[Revised as of July 1, 2009]
From the U.S. Government Printing Office via GPO Access
[CITE: 40CFR60]

[Page 972-992]

TITLE 40--PROTECTION OF ENVIRONMENT
CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)
PART 60_STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES--

Table of Contents

2.6.1

Subpart JJJJ_Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Source: 73 FR 3591, Jan. 18, 2008, unless otherwise noted.

What This Subpart Covers

Sec. 60.4230 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (5) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

Bannock County is proposing to construct a landfill gas extraction system at their Fort Hall Mine Road municipal solid waste landfill that will incorporate a Caterpillar Model 3516 stationary spark ignition (SI) internal combustion engine (ICE). In this event, Bannock County will be an owner and operator of a stationary spark ignition (SI) internal combustion engine (ICE).

Bannock County is not an engine manufacturer as defined in 40 CFR 60.4248

- (1) Manufacturers of stationary SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008.
- (2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is:
 - (i) On or after July 1, 2008; or
 - (ii) On or after January 1, 2009, for emergency engines.
- (3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this subpart and where the date of manufacture is:
 - (i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);
 - (ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;
 - (iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or
 - (iv) On or after January 1, 2009, for emergency engines.

Note: The Caterpillar Model 3516 stationary SI ICE proposed for the Fort Hall Mine Road MSW landfill will operate nearly continuously. It will not serve as an emergency engine as defined in 40 CFR 60.4248 .

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

The Cat 3516 engine that pertains to the Bannock County waste-to-energy project is a landfill gas lean-burn engine rated at 1148 bhp, for which construction will commence after June 12, 2006 . The requirements of this subpart therefore apply to the Bannock County project.

(iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

(5) Owners and operators of stationary SI ICE that commence modification or reconstruction after June 12, 2006.

(b) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(d) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.

(e) Stationary SI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(f) Owners and operators of facilities with internal combustion engines that [[Page 973]] are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate non-road engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

Emission Standards for **Manufacturers**

*Bannock County is not an engine **manufacturer** as defined in 40 CFR 60.4248. The requirements of this section do not apply to the Bannock County project.*

Sec. 60.4231 What emission standards must I meet if I am a **manufacturer of stationary SI internal combustion engines or equipment containing such engines?**

(a) Stationary SI internal combustion engine **manufacturers** must certify their stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008 to the certification emission standards and other requirements for new non-road SI engines in 40 CFR part 90 or 1054, as follows:

If engine replacement is . . .	and manufacturing dates are . . .	the engine must meet emission standards and related requirements for non-handheld engines under ...
(1) below 225 cc.....	July 1, 2008 to December 31, 2011.	40 CFR part 90.
(2) below 225 cc.....	January 1, 2012 or later.	40 CFR part 1054
(3) at or above 225 cc.....	July 1, 2008 to December 31, 2010	40 CFR part 90.
(4) at or above 225 cc.....	January 1, 2011 or later.	40 CFR part 1054.

(b) Stationary SI internal combustion engine **manufacturers** must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that use gasoline and that are manufactured on or after the applicable date in Sec. 60.4230(a)(2), or manufactured on or after the applicable date in Sec. 60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine **manufacturers** must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in Sec. 60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cubic centimeters (cc) to the certification emission standards and other requirements for new non-road SI engines in 40 CFR part 90 or 1054, as appropriate.

(c) Stationary SI internal combustion engine **manufacturers** must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that are rich burn engines that use LPG and that are manufactured on or after the applicable date in Sec. 60.4230(a)(2), or manufactured on or after the applicable date in Sec. 60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that are manufactured on or after the applicable date in Sec. 60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40

[[Page 974]] CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate.

(d) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) under the voluntary manufacturer certification program described in this subpart must certify those engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers who choose to certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP, must certify those engines to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate. For stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) manufactured prior to January 1, 2011, manufacturers may choose to certify these engines to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP.

(e) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) under the voluntary manufacturer certification program described in this subpart must certify those engines to the emission standards in Table 1 to this subpart. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) that are lean burn engines that use LPG to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. For stationary SI ICE with a maximum engine power greater than or equal to 100 HP (75 KW) and less than 500 HP (373 KW) manufactured prior to January 1, 2011, and for stationary SI ICE with a maximum engine power greater than or equal to 500 HP (373 KW) manufactured prior to July 1, 2010, manufacturers may choose to certify these engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048 applicable to engines that are not severe duty engines.

(f) Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, to the extent they apply to equipment manufacturers.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59175, Oct. 8, 2008]

Sec. 60.4232 How long must my engines meet the emission standards if I am a manufacturer of stationary SI internal combustion engines?

Engines manufactured by stationary SI internal combustion engine manufacturers must meet the emission standards as required in Sec. 60.4231 during the certified emissions life of the engines.

Emission Standards for Owners and Operators

Sec. 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?

(a) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, [[Page 975]] 2008, must comply with the emission standards in Sec. 60.4231(a) for their stationary SI ICE.

(b) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in Sec. 60.4230(a)(4) that use gasoline must comply with the emission standards in Sec. 60.4231(b) for their stationary SI ICE.

(c) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in Sec. 60.4230(a)(4) that are rich burn engines that use LPG must comply with the emission standards in Sec. 60.4231(c) for their stationary SI ICE.

The Cat 3516 engine that is contemplated for the Bannock County waste-to-energy project is a landfill gas lean-burn engine rated at 1148 bhp, for which construction will commence after June 12, 2006. It will not burn gasoline nor will it burn LPG. The requirements of 40 CFR 60.4233 (a) through (c) do not apply to the Bannock County project.

(d) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to this subpart for their emergency stationary SI ICE. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

The Cat 3516 engine that is contemplated for the Bannock County waste-to-energy project is a landfill gas lean-burn engine rated at 1148 bhp, for which construction will commence after June 12, 2006. The requirements of 40 CFR 60.4233 (e) therefore do not apply to the Bannock County project, and we anticipate that they will be included in our Title V Operating Permit.

(f) Owners and operators of any modified or reconstructed stationary SI ICE subject to this subpart must meet the requirements as specified in paragraphs (f)(1) through (5) of this section.

The Cat 3516 engine that is contemplated for the Bannock County waste-to-energy project will not be a modified nor re-constructed engine. The requirements of 40 CFR 60.4233 (f)(1) through (5) therefore do not apply to the Bannock County project.

(1) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (a) of this section.

(2) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that use gasoline engines, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (b) of this section.

(3) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are rich burn engines that use LPG, that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (c) of this section.

(4) Owners and operators of stationary SI natural gas and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NO_x) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NO_x emission standard of 250 ppmvd at 15 percent oxygen (O₂), a CO emission standard 540 ppmvd at 15 percent O₂ (675 ppmvd at 15 percent O₂ for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O₂, where the date of manufacture of the engine is:

(i) Prior to July 1, 2007, for non-emergency engines with a maximum engine power greater than or equal to 500 HP;

(ii) Prior to July 1, 2008, for non-emergency engines with a maximum engine power less than 500 HP;

(iii) Prior to January 1, 2009, for emergency engines.

Note: The Caterpillar Model 3516 stationary SI ICE proposed for the Fort Hall Mine Road MSW landfill will operate nearly continuously. It will not serve as an emergency engine as defined in 40 CFR 60.4248.

(5) Owners and operators of stationary SI landfill/digester gas ICE engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (e) of this section for stationary landfill/digester gas engines.

Note: The Cat 3516 engine that is contemplated for the Bannock County waste-to-energy project will not be a modified nor re-constructed engine. The requirements of 40 CFR 60.4233 (f)(5) therefore will not apply to the Bannock County project.

(g) Owners and operators of stationary SI wellhead gas ICE engines may petition the Administrator for approval on a case-by-case basis to meet emission standards no less stringent than the emission standards that apply to stationary emergency SI engines greater than 25 HP and less than 130 HP due to the presence of high sulfur levels in the fuel, as specified in Table 1 to this subpart. The request must, at a minimum, demonstrate that the fuel has high sulfur levels that prevent the use of after-treatment controls and also that the owner has reasonably made all attempts possible to obtain an engine that will meet the standards without the use of after treatment controls. The petition must request the most stringent standards reasonably applicable to the engine using the fuel.

(h) Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of this section.

Sec. 60.4234 How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in Sec. 60.4233 over the **entire life of the engine**.

Bannock County understands that this requirement will likely be a condition of our forthcoming Title V Operating Permit.

Other Requirements for **Owners and Operators**

Sec. 60.4235 What **fuel requirements must I meet if I am an **owner or operator** of a stationary SI gasoline fired internal combustion engine subject to this subpart?**

Owners and operators of stationary SI ICE subject to this subpart that use **gasoline** must use gasoline that meets the per gallon sulfur limit in 40 CFR 80.195.

*The Cat 3516 engine that is contemplated for the Bannock County waste-to-energy project is **not gasoline fueled**, but is a landfill gas-fired lean-burn engine rated at 1148 bhp, for which construction will commence after June 12, 2006 . 40 CFR 60.4235 therefore will not apply to the Bannock County project.*

Sec. 60.4236 What is the deadline for importing or **installing stationary SI ICE produced in the **previous model year**?**

(a) After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in Sec. 60.4233.

(b) After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in Sec. 60.4233, except that **lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP** that do not meet the applicable requirements in Sec. 60.4233 may not be installed after January 1, 2010.

Bannock County understands that this requirement applies to the project, and will likely be a condition of our forthcoming Title V Operating Permit.

(c) For **emergency** stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in Sec. 60.4233 after January 1, 2011.

(d) In addition to the requirements specified in Sec. Sec. 60.4231 and 60.4233, it is prohibited to import stationary SI ICE less than or equal to 19 KW (25 HP), **stationary rich burn LPG SI ICE**, and stationary **gasoline** SI ICE that do not meet the applicable requirements specified in paragraphs (a), (b), and (c) of this section, after the date specified in paragraph (a), (b), and (c) of this section.

(e) The requirements of this section do not apply to owners and operators of stationary SI ICE that have been **modified or reconstructed**, and they do not apply to engines that were **removed from one existing location and reinstalled** at a new location.

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Sec. 60.4237 What are the monitoring requirements if I am an owner or operator of an **emergency stationary SI internal combustion engine?**

*The Caterpillar Model 3516 stationary SI ICE proposed for the Fort Hall Mine Road MSW landfill will operate nearly continuously. It will **not** serve as an **emergency engine** as defined in 40 CFR 60.4248 . The requirements of this section do not apply to the Bannock County project.*

(a) Starting on July 1, 2010, if the **emergency** stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(b) Starting on January 1, 2011, if the **emergency** stationary SI internal combustion engine that is greater than or equal to 130 HP and less than 500 HP that was built on or after January 1, 2011, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(c) If you are an owner or operator of an **emergency** stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.

Compliance Requirements for Manufacturers

*Bannock County is **not an engine manufacturer** as defined in 40 CFR 60.4248. The requirements of this section do not apply to the Bannock County project.*

Sec. 60.4238 What are my compliance requirements if I am a **manufacturer** of stationary SI internal combustion engines ≤ 19 KW (25 HP) or a manufacturer of equipment containing such engines?

Stationary SI internal combustion engine **manufacturers** who are subject to the emission standards specified in Sec. 60.4231(a) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

Sec. 60.4239 What are my compliance requirements if I am a **manufacturer** of stationary SI internal combustion engines ≤ 19 KW (25 HP) that use **gasoline** or a manufacturer of equipment containing such engines?

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in Sec. 60.4231(b) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers. [73 FR 59176, Oct. 8, 2008]

Sec. 60.4240 What are my compliance requirements if I am a **manufacturer** of stationary SI internal combustion engines ≤ 19 KW (25 HP) that are **rich burn engines** that use LPG or a **manufacturer of equipment** containing such engines?

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in Sec. 60.4231(c) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine [[Page 978]] manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new non-road SI engines in 40 CFR part 90 or

40 CFR part 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

Sec. 60.4241 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines participating in the voluntary certification program or a manufacturer of equipment containing such engines?

(a) Manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to certify their engines to the emission standards in Sec. 60.4231(d) or (e), as applicable, under the voluntary certification program described in this subpart. Manufacturers who certify their engines under the voluntary certification program must meet the requirements as specified in paragraphs (b) through (g) of this section. In addition, manufacturers of stationary SI internal combustion engines who choose to certify their engines under the voluntary certification program, must also meet the requirements as specified in Sec. 60.4247.

(b) Manufacturers of engines other than those certified to standards in 40 CFR part 90 or 40 CFR part 1054 must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must follow the same test procedures that apply to large SI nonroad engines under 40 CFR part 1048, but must use the D-1 cycle of International Organization of Standardization 8178-4: 1996(E) (incorporated by reference, see 40 CFR 60.17) or the test cycle requirements specified in Table 5 to 40 CFR 1048.505, except that Table 5 of 40 CFR 1048.505 applies to high load engines only. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

(c) Certification of stationary SI ICE to the emission standards specified in Sec. 60.4231(d) or (e), as applicable, is voluntary, but manufacturers who decide to certify are subject to all of the requirements indicated in this subpart with regard to the engines included in their certification. Manufacturers must clearly label their stationary SI engines as certified or non-certified engines.

(d) Manufacturers of natural gas fired stationary SI ICE who conduct voluntary certification of stationary SI ICE to the emission standards specified in Sec. 60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the definition of pipeline-quality natural gas. The fuel used for certifying stationary SI natural gas engines must meet the definition of pipeline-quality natural gas as [[Page 979]] described in Sec. 60.4248. In addition, the manufacturer must provide information to the owner and operator of the certified stationary SI engine including the specifications of the pipeline-quality natural gas to which the engine is certified and what adjustments the owner or operator must make to the engine when installed in the field to ensure compliance with the emission standards.

(e) Manufacturers of stationary SI ICE that are lean burn engines fueled by LPG who conduct voluntary certification of stationary SI ICE to the emission standards specified in Sec. 60.4231(d) or (e), as

applicable, must certify their engines for operation using fuel that meets the specifications in 40 CFR 1065.720.

(f) Manufacturers may certify their engines for operation using gaseous fuels in addition to pipeline-quality natural gas; however, the manufacturer must specify the properties of that fuel and provide testing information showing that the engine will meet the emission standards specified in Sec. 60.4231(d) or (e), as applicable, when operating on that fuel. The manufacturer must also provide instructions for configuring the stationary engine to meet the emission standards on fuels that do not meet the pipeline-quality natural gas definition. The manufacturer must also provide information to the owner and operator of the certified stationary SI engine regarding the configuration that is most conducive to reduced emissions where the engine will be operated on gaseous fuels with different quality than the fuel that it was certified to.

(g) A stationary SI engine manufacturer may certify an engine family solely to the standards applicable to landfill/digester gas engines as specified in Sec. 60.4231(d) or (e), as applicable, but must certify their engines for operation using landfill/digester gas and must add a permanent label stating that the engine is for use only in landfill/ digester gas applications. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(h) For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

(i) For engines being certified to the voluntary certification standards in Table 1 of this subpart, the VOC measurement shall be made by following the procedures in 40 CFR 1065.260 and 1065.265 in order to determine the total NMHC emissions by using a flame-ionization detector and non-methane cutter. As an alternative to the non-methane cutter, manufacturers may use a gas chromatograph as allowed under 40 CFR 1065.267 and may measure ethane, as well as methane, for excluding such levels from the total VOC measurement.

[73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59176, Oct. 8, 2008]

Sec. 60.4242 What other requirements must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing stationary SI internal combustion engines or a manufacturer of equipment containing such engines?

(a) Stationary SI internal combustion engine manufacturers must meet the provisions of 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054, as applicable, as well as 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1048 or 1054, except that engines certified pursuant to the voluntary certification procedures in Sec. 60.4241 are subject only to the provisions indicated in Sec. 60.4247 and are permitted to provide instructions to owners and operators allowing for deviations from certified configurations, if such deviations are consistent with the provisions of paragraphs Sec. 60.4241 (c) through (f). Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, as applicable. Labels on engines certified to 40 CFR part 1048 must refer to stationary engines, rather than or in addition to non-road engines, as appropriate.

(b) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054 for that model year may [[Page 980]] certify any such family that contains both non-road and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts. This provision also applies to equipment or component manufacturers certifying to standards under 40 CFR part 1060.

(c) Manufacturers of engine families certified to 40 CFR part 1048 may meet the labeling requirements referred to in paragraph (a) of this section for stationary SI ICE by either adding a separate label containing the information required in paragraph (a) of this section or by adding the words "and stationary" after the word "nonroad" to the label.

(d) For all engines manufactured on or after January 1, 2011, and for all engines with a maximum engine power greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, a stationary SI engine manufacturer that certifies an engine family solely to the standards applicable to emergency engines must add a permanent label stating that the engines in that family are for emergency use only. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(e) All stationary SI engines subject to mandatory certification that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230. Stationary SI engines subject to standards in 40 CFR part 90 may use the provisions in 40 CFR 90.909. Manufacturers of stationary engines with a maximum engine power greater than 25 HP that are not certified to standards and other requirements under 40 CFR part 1048 are subject to the labeling provisions of 40 CFR 1048.20 pertaining to excluded stationary engines.

(f) For manufacturers of gaseous-fueled stationary engines required to meet the warranty provisions in 40 CFR 90.1103 or 1054.120, we may establish an hour-based warranty period equal to at least the certified emissions life of the engines (in engine operating hours) if we determine that these engines are likely to operate for a number of hours greater than the applicable useful life within 24 months. We will not approve an alternate warranty under this paragraph (f) for non-road engines. An alternate warranty period approved under this paragraph (f) will be the specified number of engine operating hours or two years, whichever comes first. The engine manufacturer shall request this alternate warranty period in its application for certification or in an earlier submission. We may approve an alternate warranty period for an engine family subject to the following conditions:

- (1) The engines must be equipped with non-resettable hour meters.
 - (2) The engines must be designed to operate for a number of hours substantially greater than the applicable certified emissions life.
 - (3) The emission-related warranty for the engines may not be shorter than any published warranty offered by the manufacturer without charge for the engines. Similarly, the emission-related warranty for any component shall not be shorter than any published warranty offered by the manufacturer without charge for that component.
- [73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

Compliance Requirements for Owners and Operators

Sec. 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in Sec. 60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in Sec. 60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. In addition, [[Page 981]] you must meet one of the requirements specified in (a)(1) and (2) of this section.

- (1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator.
- (2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.
 - (i) If you are an owner or operator of a stationary SI internal combustion engine less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution

control practice for minimizing emissions, but no performance testing is required if you are an owner or operator.

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than or equal to 100 HP and **less than or equal to 500 HP**, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup to demonstrate compliance.

(iii) If you are an **owner or operator of a stationary SI internal combustion engine greater than 500 HP**, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

*The Cat 3516 engine that is contemplated for the Bannock County waste-to-energy project is a **landfill gas lean-burn engine rated at 1148 bhp, for which construction will commence after June 12, 2006 and is not described by 40 CFR 60.4233 (a) through (c)**. Therefore, Bannock County will not be subject to 40 CFR 60.4243(a) listed above.*

Instead, this Bannock County project is described by 40 CFR 60.4233 (e), and will conform to requirements of 40 CFR 60.4243(b), listed below, to demonstrate emissions compliance for our Caterpillar Model 3516 stationary SI ICE, and anticipate this requirement in our Title V permit.

(b) If you are an **owner or operator of a stationary SI internal combustion engine** and **must comply with the emission standards specified in Sec. 60.4233(d) or (e)**, you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(1) **Purchasing an engine certified** according to procedures specified in this subpart, for the **same model year** and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

This Bannock County project is described by 40 CFR 60.4233 (e). Bannock County plans to follow 40 CFR 60.4243 (b)(1), above, and anticipates this requirement in our Title V permit.

(2) Purchasing a **non-certified engine** and demonstrating compliance with the emission standards specified in Sec. 60.4233(d) or (e) and according to the requirements specified in Sec. 60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.

(i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and **less than or equal to 500 HP**, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

(ii) If you are an owner or operator of a stationary SI internal combustion engine **greater than 500 HP**, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

Bannock County plans to install a certified engine. Bannock County plans to follow 40 CFR 60.4243 (b)(1), above. CFR 60.4243 (b)(2) will not be applicable.

The Cat 3516 engine included in the Bannock County waste-to-energy project is not a modified or re-constructed engine, not an emergency engine, not propane-fueled, and not less than 500 hp. The requirements of 40 CFR 60.4243(c, (d), (e), and (f) below are not applicable.

(c) If you are an owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in Sec. 60.4233(f), you must demonstrate compliance according paragraph (b)(2)(i) or (ii) of this section, except that if you [[Page 982]] comply according to paragraph (b)(2)(i) of this section, you demonstrate that your non-certified engine complies with the emission standards specified in Sec. 60.4233(f).

(d) **Emergency** stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using **propane** for a maximum of 100 hours per year as an alternative fuel solely during **emergency** operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of Sec. 60.4233.

(f) If you are an owner or operator of a stationary SI internal combustion engine that is **less than or equal to 500 HP** and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of **three-way catalysts/non-selective catalytic reduction**. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

The Cat 3516 engine included in the Bannock County waste-to-energy project does not incorporate three-way catalysts / NSCR. The requirements of 40 CFR 60.4243 (g), above are not applicable.

(h) If you are an owner/operator of an stationary SI internal combustion engine with maximum engine power greater than or equal to 500 HP that is manufactured **after July 1, 2007 and before July 1, 2008**, and must comply with the emission standards specified in sections 60.4233(b) or (c), you must comply by one of the methods specified in paragraphs (h)(1) through (h)(4) of this section.

(1) Purchasing an engine certified according to 40 CFR part 1048. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.
[[Page 983]]

The Cat 3516 engine included in the Bannock County waste-to-energy project is not manufactured after July 1, 2007 and before July 1, 2008. The requirements of 40 CFR 60.4243 (h), above, are not applicable.

Testing Requirements for Owners and Operators

Sec. 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

Bannock County anticipates that requirements referenced in this Section 60.4244 and in Table 2 of Subpart JJJJ will not be conditions of our forthcoming Title V Operating Permit for the Cat 3516 LFG lean-burn SI ICE, since these requirements are applicable to owners and operators who are subject to performance testing in Subpart JJJJ. Because the applicant plans to use a certified engine and follow the manufacturer's emission related instructions, these source testing requirements will not be applicable.

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in Sec. 60.8 and under the specific conditions that are specified by Table 2 to this subpart.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in Sec. 60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(c) You must conduct three separate test runs for each performance test required in this section, as specified in Sec. 60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

(d) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 1 of this section:[GRAPHIC] [TIFF OMITTED] TR18JA08.000

Where:

ER = Emission rate of NO_x in g/HP-hr.

C_d = Measured NO_x concentration in parts per million by volume (ppmv).

1.912x10⁻³ = Conversion constant for ppm NO_x to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

Where:

ER = Emission rate of CO in g/HP-hr.

C_d = Measured CO concentration in ppmv.

1.164×10^{-3} = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(f) For purposes of this subpart, when **calculating emissions** of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit **output emission** limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

[[Page 984]]

Where:

ER = Emission rate of VOC in g/HP-hr.

C_d = VOC concentration measured as propane in ppmv.

1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(g) If the owner/operator chooses to **measure VOC emissions** using either Method 18 of 40 CFR part 60, Appendix A, or Method 320 of 40 CFR part 63, Appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

$C_{M,i}$ = Measured concentration of compound i in ppmv as carbon.

$C_{A,i}$ = True concentration of compound i in ppmv as carbon.

Where:

$C_{i,corr}$ = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

$C_{i,meas}$ = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

Where:

C_{Peq} = Concentration of compound i in mg of propane equivalent per DSCM.

Notification, Reports, and Records for Owners and Operators

Sec. 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

Bannock County anticipates that requirements (a)(1) through (a)(4) of this Section 60.4245 will likely be conditions of our forthcoming Title V Operating Permit for the Cat 3516 LFG lean-burn SI ICE.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to Sec. 60.4243(a)(2), documentation that the engine meets the emission standards.

(b) For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. [[Page 985]] The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(c) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in Sec. 60.4231 must submit an initial notification as required in Sec. 60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

(1) Name and address of the owner or operator;

(2) The address of the affected source;

(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(4) Emission control equipment; and

(5) Fuel used.

(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in Sec. 60.4244 within 60 days after the test has been completed. [73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

Note: Requirement (d) of this Section 60.4245 is not applicable for certified engines that are operated per manufacturer's emission related instructions

General Provisions

Sec. 60.4246 What parts of the General Provisions apply to me?

Table 3 to this subpart shows which parts of the General Provisions in Sec. Sec. 60.1 through 60.19 apply to you.

Mobile Source Provisions

These Mobile Source provisions do not apply to the Caterpillar Model 3516 stationary SI ICE planned for the Fort Hall Mine Road MSW landfill.

Sec. 60.4247 What parts of the mobile source provisions apply to me if I am a manufacturer of stationary SI internal combustion engines or a manufacturer of equipment containing such engines?

(a) Manufacturers certifying to emission standards in 40 CFR part 90, including manufacturers certifying emergency engines below 130 HP, must meet the provisions of 40 CFR part 90. Manufacturers certifying to emission standards in 40 CFR part 1054 must meet the provisions of 40 CFR part 1054. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060 to the extent they apply to equipment manufacturers.

(b) Manufacturers required to certify to emission standards in 40 CFR part 1048 must meet the provisions of 40 CFR part 1048. Manufacturers certifying to emission standards in 40 CFR part 1048 pursuant to the voluntary certification program must meet the requirements in Table 4 to this subpart as well as the standards in 40 CFR 1048.101.

(c) For manufacturers of stationary SI internal combustion engines participating in the voluntary certification program and certifying engines to Table 1 to this subpart, Table 4 to this subpart shows which parts of the mobile source provisions in 40 CFR parts 1048, 1065, and 1068 apply to you. Compliance with the deterioration factor provisions under 40 CFR 1048.205(n) and 1048.240 will be required for engines built new on and after January 1, 2010. Prior to January 1, 2010, manufacturers of stationary internal combustion engines participating in the voluntary certification program have the option to develop their own deterioration factors based on an engineering analysis. [73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

Definitions

Sec. 60.4248 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

Bannock County has read and understands these definitions, and has used them in providing this regulatory analysis.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) are given in 40 CFR 90.105, 40 CFR 1054.107, and 40 CFR 1060.101, as appropriate. The values for certified emissions life for stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) certified to 40 CFR part 1048 are given in 40 CFR [[Page 986]]1048.101(g). The certified emissions life for stationary SI ICE with a maximum engine power greater than 75 KW (100 HP) certified under the voluntary manufacturer certification program of this subpart is 5,000 hours or 7 years, whichever comes first.

Bannock County has read and understands this definition, and has used it in providing this regulatory analysis.

Certified stationary internal combustion engine means an engine that belongs to an engine family that has a certificate of conformity that complies with the emission standards and requirements in this part, or of 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054, as appropriate.

Bannock County acknowledges that this definition applies to the Caterpillar Model 3516 stationary SI ICE planned for the Fort Hall Mine Road MSW landfill.

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Although the Cat 3516 engine can be provided in either SI or Compression Ignition mode, the engine specifications used in the PTC application preparation incorporate the SI design.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil. **Digester gas** means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and carbon dioxide (CO₂).

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary SI ICE used for peak shaving are not considered emergency stationary ICE. Stationary ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of "manufacturer" in this section.

Bannock County is not an engine manufacturer as defined in 40 CFR 60.4248

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Bannock County acknowledges that this definition applies to the Caterpillar Model 3516 stationary SI ICE planned for the Fort Hall Mine Road MSW landfill.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO₂.

Bannock County has read and understands this definition, and has used it in providing this regulatory analysis.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Bannock County acknowledges that this section applies to the Caterpillar Model 3516 stationary SI ICE planned for the Fort Hall Mine Road MSW landfill. The engine specifications used in the PTC application preparation incorporate the lean-burn design.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Manufacturer has the meaning given in section 216(1) of the Clean Air Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a

new stationary engine into commerce in the United States. This includes importers who import stationary engines for resale.

Bannock County is not an engine manufacturer as defined in 40 CFR 60.4248

Maximum engine power means maximum engine power as defined in 40 CFR 1048.801.

Bannock County has read and understands this definition, and has used it in providing this regulatory analysis.

Model year means either: The calendar year in which the engine was originally produced, or the annual new model production period of the engine manufacturer if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year, and it must end by December 31 of the named calendar year. For [[Page 987]] an engine that is converted to a stationary engine after being placed into service as a non-road or other non-stationary engine, model year means the calendar year or new model production period in which the engine was originally produced.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Pipeline-quality natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline-quality natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units per standard cubic foot.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to June 12, 2006, with passive emission control technology for NO_x (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

This definition does not apply to the lean-burn Caterpillar Model 3516 stationary SI ICE planned for the Fort Hall Mine Road MSW landfill.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to either: a gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of equivalent basis are spark ignition engines.

Bannock County acknowledges that this section applies to the Caterpillar Model 3516 stationary SI ICE planned for the Fort Hall Mine Road MSW landfill. Although the Cat 3516 engine can be provided in either SI or Compression Ignition mode, the engine specifications used in the PTC application preparation incorporate the SI design.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR

1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Bannock County acknowledges that this section applies to the Caterpillar Model 3516 stationary SI ICE planned for the Fort Hall Mine Road MSW landfill.

Stationary internal combustion engine test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that test stationary ICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Bannock County has read and understands this definition, and has used it in providing this regulatory analysis.

Subpart means 40 CFR part 60, subpart JJJJ.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric

Volatile organic compounds means volatile organic compounds as defined in 40 CFR 51.100(s).

Bannock County has read and understands this definition, and has used it in providing this regulatory analysis.

Voluntary certification program means an optional engine certification program that **manufacturers** of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that **use LPG** [[Page 988]] can choose to participate in to certify their engines to the emission standards in Sec. 60.4231(d) or (e), as applicable. [73 FR 3591, Jan. 18, 2008, as amended by 73 FR 59177, Oct. 8, 2008]

**Table 1 to Subpart JJJJ of Part 60
NO_x CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines > 100 HP
(Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas
Engines, and Stationary Emergency Engines >25 HP**

Bannock County understands that the emission standards referenced in this table for Landfill Gas Lean Burn engines manufactured after 7/1/2010 will likely be conditions of our forthcoming Title V Operating Permit. The source and the manufacture date for the Cat 3516 landfill waste-to-energy engine-generator has not yet been specified. Bannock County will comply with the emission standards that pertain to the engine manufacture date applicable to the engine. The emission inventory used in Bannock County's PTC application conforms to applicable emission standards that are set in this table.

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards ^a					
			g/HP-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC ^d	NO _x	CO	VOC ^d
Non-Emergency SI Natural Gas ^b and Non-Emergency SI Lean Burn LPG ^b	100≤HP<500	7/1/2008	2.0	4.0	1.0	160	540	86
		1/1/2011	1.0	2.0	0.7	82	270	60
Non-Emergency SI Lean Burn Natural Gas and LPG	500≥HP<1,350	1/1/2008	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500≥HP<1,350)	HP≥500	7/1/2007	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas (except lean burn 500≥HP<1,350)	HP<500	7/1/2008	3.0	5.0	1.0	220	610	80
		1/1/2011	2.0	5.0	1.0	150	610	80
	HP≥500	7/1/2007	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Landfill/Digester Gas Lean Burn	500≥HP<1,350	1/1/2008	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Emergency	25>HP<130	1/1/2009	^c 10	387	N/A	N/A	N/A	N/A
			2.0	4.0	1.0	160	540	86
	HP≥130							

^a Owners and operators of stationary **non-certified SI engines** may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O₂.

^b Owners and operators of new or reconstructed non-emergency lean burn SI stationary engines with a site rating of greater than or equal to 250 brake HP **located at a major source** that are meeting the requirements of 40 CFR part 63, subpart ZZZZ, Table 2A do not have to comply with the CO emission standards of Table 1 of this subpart.

^c The emission standards applicable to **emergency engines** between 25 HP and 130 HP are in terms of NO_x+HC.

^d For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included. [[Page 989]]

Table 2 to Subpart JJJJ of Part 60--Requirements for Performance Tests

[As stated in Sec. 60.4244, you must comply with the following requirements for performance tests within 10 percent of 100 percent peak (or the highest achievable) load]

Bannock County understands that requirements referenced in this table are applicable to owners and operators who are subject to performance testing in Subpart JJJJ. Because the applicant plans to use a certified engine and follow the manufacturer's emission related instructions, these requirements will not be conditions in our forthcoming Title V Operating Permit.

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary SI internal combustion engine demonstrating compliance according to §60.4244.	a. limit the concentration of NO _x in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A or ASTM Method D6522-00(2005) ^a .	(a) If using a control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A or ASTM Method D6522-00(2005) ^a .	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for NO _x concentration.	
	iii. Determine the exhaust flow rate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for NO _x concentration.	
	v. Measure NO _x at the exhaust of the stationary internal combustion engine.	(5) Method 7E of 40 CFR part 60, appendix A, Method D6522-00(2005) ^a , Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	

	b. limit the concentration of CO in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A.	(a) If using a control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005) ^a .	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for CO concentration.	
	iii. Determine the exhaust flow rate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.	
	v. Measure CO at the exhaust of the stationary internal combustion engine .	(5) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522–00(2005) ^a , Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	
	c. limit the concentration of VOC in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A.	(a) If using a control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005) ^a .	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for VOC concentration.	

	iii. Determine the exhaust flow rate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.	
	v. Measure VOC at the exhaust of the stationary internal combustion engine .	(5) Methods 25A and 18 of 40 CFR part 60, appendix A, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 or 40 CFR part 60, appendix A, ^{cd} Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	

 \a\ ASTM D6522-00 is incorporated by reference; see 40 CFR 60.17. Also, you may petition the Administrator for approval to use alternative methods for portable analyzer.

\b\ You may use ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, for measuring the O2 content of the exhaust gas as an alternative to EPA Method 3B.

\c\ You may use EPA Method 18 of 40 CFR part 60, appendix A, provided that you conduct an adequate pre-survey test prior to the emissions test, such as the one described in OTM 11 on EPA's Web site (<http://www.epa.gov/ttn/emc/prelim/otm11.pdf>).

\d\ You may use ASTM D6420-99 (2004), Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry as an alternative to EPA Method 18 for measuring total non-methane organic.
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**Table 3 to Subpart JJJJ of Part 60
Applicability of General Provisions to Subpart JJJJ**

[As stated in Sec. 60.4246, you must comply with the following applicable General Provisions]

Bannock County understands that all requirements referenced “yes” in this table will be addressed in our forthcoming Title V Operating Permit. We anticipate that 40 CFR 60.8 (performance testing) will not apply, since we will be using a certified engine, operated per manufacturer’s emission related instructions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
Sec. 60.1	General applicability of the General Provisions	Yes	
Sec. 60.2	Definitions	Yes	Additional terms defined in Sec. 60.4248
Sec. 60.3	Units and abbreviations	Yes	
Sec. 60.4	Address	Yes	
Sec. 60.5	Determination of construction or modification	Yes	
Sec. 60.6	Review of plans	Yes	
Sec. 60.7	Notification and Recordkeeping	Yes	Except that Sec. 60.7 only applies as specified in Sec. 60.4245
Sec. 60.8	Performance tests	Yes	Except that Sec. 60.8 only applies to owners and operators who are subject to performance testing in subpart JJJJ
Sec. 60.9	Availability of information	Yes	
Sec. 60.10	State Authority	Yes	
Sec. 60.11	Compliance with standards and maintenance requirements	Yes	Requirements are specified in subpart JJJJ
Sec. 60.12	Circumvention	Yes	
Sec. 60.13	Monitoring requirements	No	
Sec. 60.14	Modification	Yes	
Sec. 60.15	Reconstruction	Yes	
Sec. 60.16	Priority list	Yes	
Sec. 60.17	Incorporations by reference	Yes	
Sec. 60.18	General control device requirements	No	
Sec. 60.19	General notification and reporting requirements	Yes	

Table 4 to Subpart JJJJ of Part 60--Applicability of Mobile Source Provisions for Manufacturers Participating in the Voluntary Certification Program and Certifying Stationary SI ICE to Emission Standards in Table 1 of Subpart JJJJ

[As stated in Sec. 60.4247, you must comply with the following applicable mobile source provisions if you are a manufacturer participating in the voluntary certification program and certifying stationary SI ICE to emission standards in Table 1 of Subpart JJJJ]

Bannock County is not an engine manufacturer as defined in 40 CFR 60.4248. The requirements of this table do not apply to the Bannock County project.

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 subpart A	Overview and Applicability.	Yes	
1048 subpart B	Emission Standards and Related Requirements	Yes	Except for the specific sections below
1048.101	Exhaust Emission Standards	No	
1048.105	Evaporative Emission Standards	No	
1048.110	Diagnosing Malfunctions	No	
1048.140	Certifying Blue Sky Series Engines	No	
1048.145	Interim Provisions	No	
1048 subpart C	Certifying Engine Families	Yes	Except for the specific sections below
1048.205(b)	AECD reporting	Yes	
1048.205(c)	OBD Requirements	No	
1048.205(n)	Deterioration Factors	Yes	Except as indicated in 60.4247(c).
1048.205(p)(1)	Deterioration Factor Discussion	Yes	
1048.205(p)(2)	Liquid Fuels as they Require	No	
1048.240(b)(c)(d)	Deterioration Factors	Yes	
1048 subpart D	Testing Production-Line Engines	Yes	
1048 subpart E	Testing In-Use Engines	No	
1048 subpart F	Test Procedures	Yes	
1065.5(a)(4)	Raw sampling (refers reader back to the specific emissions regulation for guidance)	Yes	
1048 subpart G	Compliance Provisions	Yes	
1048 subpart H	Reserved		
1048 subpart I	Definitions and Other Reference Information	Yes	
1048 appendix I and II.	Yes		
1065 (all subparts)	Engine Testing Procedures.	Yes	Except for the specific section below
1065.715	Test Fuel Specifications for Natural Gas	No	
1068 (all subparts)	General Compliance Provisions for Non-road Programs	Yes	Except for the specific section below
1068.245	Hardship Provisions for Unusual Circumstances	No	
1068.250	Hardship Provisions for Small-Volume Manufacturers	No	
1068.255	Hardship Provisions for Equipment Manufacturers and Secondary Engine Manufacturers	No	[Page 992] <i>End JJJJ</i>

[Code of Federal Regulations]
[Title 1, Volume 6]
[Revised as of March 12, 1996]
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TITLE 40--PROTECTION OF ENVIRONMENT
CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)
PART 61 _STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES--

Table of Contents

2.6.2

Subpart WWW_Standards of Performance for Municipal Solid Waste Landfills

Source: 61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32750, June 16, 1998]

§ 60.750 Applicability, designation of affected facility, and delegation of authority.

(a) The provisions of this subpart apply to each **municipal solid waste landfill** that commenced construction, reconstruction or modification **on or after May 30, 1991**. Physical or operational changes made to an existing MSW landfill solely to comply with subpart Cc of this part are not considered construction, reconstruction, or modification for the purposes of this section.

(b) The following authorities shall be retained by the Administrator and not transferred to the State: §60.754(a)(5).

(c) Activities required by or conducted pursuant to a CERCLA, RCRA, or State remedial action are not considered construction, reconstruction, or modification for purposes of this subpart.

Bannock County's Fort Hall Mine Road municipal solid waste landfill commenced modification after May 30, 1991, and is therefore subject to the requirements of this subpart. The proposed waste-to-energy project is not being undertaken as a RCRA or CERCLA remedial action.

§ 60.751 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of this part.

Active collection system means a gas collection system that uses gas mover equipment.

Active landfill means a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future.

Closed landfill means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under §60.7(a)(4). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed.

Closure means that point in time when a landfill becomes a closed landfill.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other non-manufacturing activities, excluding residential and industrial wastes.

Controlled landfill means any landfill at which collection and control systems are required under this subpart as a result of the non-methane organic compounds emission rate. The landfill is considered controlled **at the time a collection and control system design plan is submitted** in compliance with §60.752(b)(2)(i).

Bannock County's Fort Hall Mine Road municipal solid waste landfill will not have NMOC production in excess of the 50 Mg/yr threshold until approximately 2024, and will not be a controlled landfill (with commensurate Design Plan) until that time.

Design capacity means the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the State, local, or Tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site specific density, which must be recalculated annually.

*Bannock County's Fort Hall Mine Road municipal solid waste landfill has a **current Design Capacity** of 3.703 MMg. An Amended Design Capacity Report reflecting that total was filed with DEQ on April 26, 2010.*

Disposal facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Emission rate cutoff means the threshold annual emission rate to which a landfill compares its estimated emission rate to determine if control under the regulation is required.

Enclosed combustor means an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor.

Flare means an open combustor without enclosure or shroud.

An open flare is included in the LFG control system design at the Fort Hall Mine Road municipal solid waste landfill.

Gas mover equipment means the equipment (i.e., fan, blower, compressor) used to transport landfill gas through the header system.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act, parts 264 and 265 of this title. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer / agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous

plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Interior well means any well or similar collection component located inside the perimeter of the landfill waste. A perimeter well located outside the land-filled waste is not an interior well.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under §257.2 of this title.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill.

Modification means an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its permitted design capacity as of May 30, 1991. Modification does not occur until the owner or operator **commences construction** on the horizontal or vertical expansion.

Municipal solid waste landfill or *MSW landfill* means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA Subtitle D wastes (§257.2 of this title) such as commercial solid waste, non-hazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill, or a lateral expansion.

Municipal solid waste landfill emissions or *MSW landfill emissions* means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste.

NMOC means non-methane organic compounds, as measured according to the provisions of §60.754.

Nondegradable waste means any waste that does not decompose through chemical breakdown or microbiological activity. Examples are, but are not limited to, concrete, municipal waste combustor ash, and metals.

Passive collection system means a gas collection system that solely uses positive pressure within the landfill to move the gas rather than using gas mover equipment.

Sludge means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

Solid waste means any garbage, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C 2011 et seq.).

Sufficient density means any number, spacing, and combination of collection system components, including vertical wells, horizontal collectors, and surface collectors, necessary to maintain emission and migration control as determined by measures of performance set forth in this part.

Sufficient extraction rate means a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower.

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32750, June 16, 1998; 64 FR 9262, Feb. 24, 1999]

§ 60.752 Standards for air emissions from municipal solid waste landfills.

(a) Each owner or operator of an MSW landfill having a design capacity less than 2.5 million megagrams by mass or 2.5 million cubic meters by volume shall submit an **initial design capacity report** to the Administrator as provided in §60.757(a). The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. Any density conversions shall be documented and submitted with the report. Submittal of the initial design capacity report shall fulfill the requirements of this subpart except as provided for in paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator shall submit to the Administrator an **amended design capacity report**, as provided for in §60.757(a)(3).

*Bannock County's Fort Hall Mine Road municipal solid waste landfill has a **current Design Capacity of 3.703 MMg**. An Amended Design Capacity Report reflecting that total was filed with DEQ on **April 26, 2010**.*

(2) When an increase in the maximum design capacity of a landfill exempted from the provisions of §60.752(b) through §60.759 of this subpart on the basis of the design capacity exemption in paragraph (a) of this section results in a revised maximum design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, the owner or operator shall comply with the provision of paragraph (b) of this section.

(b) Each owner or operator of an MSW landfill having a **design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters**, shall either comply with paragraph (b)(2) of this section or calculate an NMOC emission rate for the landfill using the procedures specified in §60.754. The NMOC emission rate shall be **recalculated annually**, except as provided in §60.757(b)(1)(ii) of this subpart. The owner or operator of an MSW landfill subject to this subpart with a **design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters** is subject to part 70 or 71 permitting requirements.

(1) If the calculated NMOC emission rate is **less than 50 megagrams per year**, the owner or operator shall:

*The Fort Hall Mine Road municipal solid waste landfill's calculated NMOC emission rate is **7.310 Mg/yr** for 2009.*

(i) **Submit an annual emission report** to the Administrator, except as provided for in §60.757(b)(1)(ii); and

An Annual NMOC Emissions Report reflecting that total was filed with DEQ on April 21, 2010.

- (ii) Recalculate the NMOC emission rate annually using the procedures specified in §60.754(a)(1) until such time as the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, or the landfill is closed.

Bannock County will re-calculate the NMOC generation based on current landfill conditions, and report that updated NMOC generation rate to DEQ annually in April. The Fort Hall Mine Road municipal solid waste landfill's calculated NMOC emission rate is 7.310 Mg/yr for 2009.

- (A) If the NMOC emission rate, upon recalculation required in paragraph (b)(1)(ii) of this section, is equal to or greater than 50 megagrams per year, the owner or operator shall install a collection and control system in compliance with paragraph (b)(2) of this section.

The Fort Hall Mine Road municipal solid waste landfill's installation of a Landfill Gas collection system, flare, and engine is voluntary at this time, since NMOC emissions are well below the 50 MG/yr threshold.

- (B) If the landfill is permanently closed, a closure notification shall be submitted to the Administrator as provided for in §60.757(d).

The Fort Hall Mine Road municipal solid waste landfill is currently operating, with capacity to continue until well after 2031, before closure.

2) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, the owner or operator shall:

- (i) Submit a collection and control system design plan prepared by a professional engineer to the Administrator within 1 year:

The Collection and Control System Design Plan for the Fort Hall Mine Road municipal solid waste landfill will be prepared after 2024, when NMOC production exceeds 50 MG/yr.

- (A) The collection and control system as described in the plan shall meet the design requirements of paragraph (b)(2)(ii) of this section.

(B) The collection and control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§60.753 through 60.758 proposed by the owner or operator.

(C) The collection and control system design plan shall either conform with specifications for active collection systems in §60.759 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to §60.759.

At the time our Collection and Control System Design Plan is submitted (after NMOC production exceeds 50 MG/yr.), Bannock County will demonstrate compliance with all applicable design standards or demonstrate the adequacy of alternative provisions.

(D) The Administrator shall review the information submitted under paragraphs (b)(2)(i) (A),(B) and (C) of this section and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems.

(ii) **Install a collection and control system** that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B) and (b)(2)(iii) of this section **within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams per year**, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 megagrams per year, as specified in §60.757(c)(1) or (2).

Prior to approximately 2024, the estimated year at which NMOC production at the landfill exceeds 50 Mg/yr, Bannock County's installation and operation of their active collection and control system is voluntary. Bannock County will demonstrate compliance with the design and operating requirements of 40 CFR 60.752 (b)(2)(ii) below, at the time their NMOC production exceeds 50 Mg/yr. .

(A) An active collection system shall:

(1) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;

(2) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of:

(i) 5 years or more if active; or

(ii) 2 years or more if closed or at final grade.

(3) Collect gas at a sufficient extraction rate;

(4) Be designed to minimize off-site migration of subsurface gas.

(B) A **passive collection system** shall:

(1) Comply with the provisions specified in paragraphs (b)(2)(ii)(A)(1), (2), and (2)(ii)(A)(4) of this section.

(2) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under §258.40.

(iii) Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of this section.

(A) An open flare designed and operated in accordance with §60.18 except as noted in §60.754(e);

An open flare is included in the LFG control system design at the Fort Hall Mine Road municipal solid waste landfill.

(B) A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or parts per million by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in §60.754(d).

(1) If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone.

(2) The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in §60.756;

(C) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of paragraph (b)(2)(iii) (A) or (B) of this section.

(iv) Operate the collection and control device installed to comply with this subpart in accordance with the provisions of §§60.753, 60.755 and 60.756.

Bannock County will demonstrate compliance with the operating requirements of 40 CFR 60.753, 753, and 756 at the time their NMOC production exceeds 50 Mg/yr, per 40 CFR 60.752 (b)(2).

(v) The collection and control system may be capped or removed provided that all the conditions of paragraphs (b)(2)(v) (A), (B), and (C) of this section are met:

(A) The landfill shall be a closed landfill as defined in §60.751 of this subpart. A closure report shall be submitted to the Administrator as provided in §60.757(d);

(B) The collection and control system shall have been in operation a minimum of 15 years; and

(C) Following the procedures specified in §60.754(b) of this subpart, the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

(c) For purposes of obtaining an operating permit under title V of the Act, the owner or operator of a MSW landfill subject to this subpart with a **design capacity less than 2.5 million megagrams** or 2.5 million cubic meters is not subject to the requirement to obtain an operating permit for the landfill under part 70 or 71 of this chapter, unless the landfill is otherwise subject to either part 70 or 71. For purposes of submitting a timely application for an operating permit under part 70 or 71, the owner or operator of a MSW landfill subject to this subpart with a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters, and not otherwise subject to either part 70 or 71, becomes subject to the requirements of §§70.5(a)(1)(i) or 71.5(a)(1)(i) of this chapter, regardless of when the design capacity report is actually submitted, no later than:

(1) June 10, 1996 for MSW landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996;

(2) Ninety days after the date of commenced construction, modification, or reconstruction for MSW landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

(d) When a MSW landfill subject to this subpart is **closed**, the owner or operator is no longer subject to the requirement to maintain an operating permit under part 70 or 71 of this chapter for the landfill if the landfill is not otherwise subject to the requirements of either part 70 or 71 and if either of the following conditions are met:

(1) The landfill was never subject to the requirement for a control system under paragraph (b)(2) of this section; or

(2) The owner or operator meets the conditions for control system removal specified in paragraph (b)(2)(v) of this section.

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32751, June 16, 1998; 65 FR 18908, Apr. 10, 2000; 71 FR 55127, Sept. 21, 2006]

§ 60.753 Operational standards for collection and control systems.

Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of §60.752(b)(2)(ii) of this subpart shall:

At present, requirements of 40 CFR 60.752 (b) are not applicable, since NMOC production is less than 50 Mg/yr. Bannock County's gas control system at the Ft. Hall Mine Road Landfill is not used to comply with §60.752(b)(2)(ii). Requirement 40 CFR 60.753(a), below, will apply after NMOC exceeds 50 Mg/yr.

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade;

At present, requirements of 40 CFR 60.752 (b) are not applicable, since NMOC production is less than 50 Mg/yr. Bannock County's gas control system at the Ft. Hall Mine Road Landfill is not used to comply with §60.752(b)(2)(ii). Requirements 40 CFR 60.753 (b) through (g), below, will apply after NMOC exceeds 50 Mg/yr.

(b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

- (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in §60.757(f)(1);
- (2) Use of a geo-membrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;
- (3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Administrator;

(c) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55 °C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

- (1) The nitrogen level shall be determined using Method 3C, unless an alternative test method is established as allowed by §60.752(b)(2)(i) of this subpart.
- (2) Unless an alternative test method is established as allowed by §60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that:
 - (i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span;
 - (ii) A data recorder is not required;
 - (iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span;
 - (iv) A calibration error check is not required;
 - (v) The allowable sample bias, zero drift, and calibration drift are ±10 percent.

(d) Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

(e) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with §60.752(b)(2)(iii). In the event the collection or control system is

inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour; and

(f) Operate the control or treatment system at all times when the collected gas is routed to the system.

(g) If monitoring demonstrates that the operational requirements in paragraphs (b), (c), or (d) of this section are not met, corrective action shall be taken as specified in §60.755(a)(3) through (5) or §60.755(c) of this subpart. If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements in this section.

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32751, June 16, 1998; 65 FR 61778, Oct. 17, 2000]

§ 60.754 Test methods and procedures.

(a)(1) The landfill owner or operator shall calculate the NMOC emission rate using either the equation provided in paragraph (a)(1)(i) of this section or the equation provided in paragraph (a)(1)(ii) of this section. Both equations may be used if the actual year-to-year solid waste acceptance rate is known, as specified in paragraph (a)(1)(i), for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph (a)(1)(ii), for part of the life of the landfill. The values to be used in both equations are 0.05 per year for k , 170 cubic meters per megagram for L_o , and 4,000 parts per million by volume as hexane for the C_{NMOC} . For landfills located in geographical areas with a thirty year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorological site, the k value to be used is 0.02 per year.

(i) The following equation shall be used if the actual year-to-year solid waste acceptance rate is known.

Bannock County's year-to-year waste acceptance rate at the Ft. Hall Mine Road Landfill is known, therefore equation (a)(1)(i) has been (and will be) used.

$$M_{NMOC} = \sum_{i=1}^n 2 k L_o M_i (e^{-kt_i}) (C_{NMOC}) (3.6 \times 10^{-9})$$

where,

M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year

K = methane generation rate constant, year⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the i^{th} section, megagrams

t_i = age of the i^{th} section, years

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane

3.6×10^{-9} = conversion factor

The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M_i if documentation of the nature and amount of such wastes is maintained

(ii) The following equation shall be used if the actual **year-to-year solid waste acceptance rate is unknown**.

Bannock County's year-to-year waste acceptance rate at the Ft. Hall Mine Road Landfill is known, therefore equation (a)(1)(i) has been, (and will be) used.

$$M_{\text{NMOC}} = 2L_0R (e^{-kc} - e^{-kt}) C_{\text{NMOC}}(3.6 \times 10^{-9})$$

Where:

M_{NMOC} = mass emission rate of NMOC, megagrams per year

L_0 = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

K = methane generation rate constant, year⁻¹

t = age of landfill, years

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane

C = time since closure, years; for active landfill $c=0$ and $e^{-kc}=1$

3.6×10^{-9} = conversion factor

The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value of R , if documentation of the nature and amount of such wastes is maintained.]

(2) **Tier 1**. The owner or operator shall compare the calculated NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC emission rate calculated in paragraph (a)(1) of this section is less than 50 megagrams per year, then the landfill owner shall submit an emission rate report as provided in §60.757(b)(1), and shall recalculate the NMOC mass emission rate annually as required under §60.752(b)(1).

(ii) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, then the landfill owner shall either comply with §60.752(b)(2), or determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the procedures provided in paragraph (a)(3) of this section.

Bannock County has made measurements at the Ft. Hall Mine Road Landfill of site-specific NMOC concentration for purposes of scoping prospective performance of the LFG collection system, and chooses to comply with Tier 2 procedures, below, to calculate NMOC production for purposes of determining when NMOC production exceeds 50 Mg/yr.

(3) **Tier 2.** The landfill owner or operator shall determine the NMOC concentration using the following sampling procedure. The landfill owner or operator shall install at least two sample probes per hectare of landfill surface that has retained waste for at least 2 years. If the landfill is larger than 25 hectares in area, only 50 samples are required. The sample probes should be located to avoid known areas of nondegradable solid waste. The owner or operator shall collect and analyze one sample of landfill gas from each probe to determine the NMOC concentration using Method 25 or 25C of appendix A of this part. Method 18 of appendix A of this part may be used to analyze the samples collected by the Method 25 or 25C sampling procedure. Taking composite samples from different probes into a single cylinder is allowed; however, equal sample volumes must be taken from each probe. For each composite, the sampling rate, collection times, beginning and ending cylinder vacuums, or alternative volume measurements must be recorded to verify that composite volumes are equal. Composite sample volumes should not be less than one liter unless evidence can be provided to substantiate the accuracy of smaller volumes. Terminate compositing before the cylinder approaches ambient pressure where measurement accuracy diminishes. If using Method 18, the owner or operator must identify all compounds in the sample and, as a minimum, test for those compounds published in the most recent Compilation of Air Pollutant Emission Factors (AP-42), minus carbon monoxide, hydrogen sulfide, and mercury. As a minimum, the instrument must be calibrated for each of the compounds on the list. Convert the concentration of each Method 18 compound to C_{NMOC} as hexane by multiplying by the ratio of its carbon atoms divided by six. If more than the required number of samples are taken, all samples must be used in the analysis. The landfill owner or operator must divide the NMOC concentration from Method 25 or 25C of appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. If the landfill has an active or passive gas removal system in place, Method 25 or 25C samples may be collected from these systems instead of surface probes provided the removal system can be shown to provide sampling as representative as the two sampling probe per hectare requirement. For active collection systems, samples may be collected from the common header pipe before the gas moving or condensate removal equipment. For these systems, a minimum of three samples must be collected from the header pipe.

(i) The landfill owner or operator shall recalculate the NMOC mass emission rate using the equations provided in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using the average NMOC concentration from the collected samples instead of the default value in the equation provided in paragraph (a)(1) of this section.

(ii) If the resulting mass emission rate calculated using the site-specific NMOC concentration is equal to or greater than 50 megagrams per year, then the landfill owner or operator shall either comply with §60.752(b)(2), or determine the site-specific methane generation rate constant and recalculate the NMOC emission rate using the site-specific methane generation rate using the procedure specified in paragraph (a)(4) of this section.

(iii) If the resulting NMOC mass emission rate is less than 50 megagrams per year, the owner or operator shall submit a periodic estimate of the emission rate report as provided in §60.757(b)(1) and retest the site-specific NMOC concentration every 5 years using the methods specified in this section.

(4) **Tier 3.** The site-specific methane generation rate constant shall be determined using the procedures provided in Method 2E of appendix A of this part. The landfill owner or operator shall estimate the NMOC mass emission rate using equations in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using a site-specific methane generation rate constant k , and the site-specific NMOC concentration as determined in paragraph (a)(3) of this section instead of the default values provided in paragraph (a)(1) of this section.

The landfill owner or operator shall compare the resulting NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC mass emission rate as calculated using the site-specific methane generation rate and concentration of NMOC is equal to or greater than 50 megagrams per year, the owner or operator shall comply with §60.752(b)(2).

(ii) If the NMOC mass emission rate is less than 50 megagrams per year, then the owner or operator shall submit a periodic emission rate report as provided in §60.757(b)(1) and shall recalculate the NMOC mass emission rate annually, as provided in §60.757(b)(1) using the equations in paragraph (a)(1) of this section and using the site-specific methane generation rate constant and NMOC concentration obtained in paragraph (a)(3) of this section. The calculation of the methane generation rate constant is performed only once, and the value obtained from this test shall be used in all subsequent annual NMOC emission rate calculations.

(5) The owner or operator may use other methods to determine the NMOC concentration or a site-specific k as an alternative to the methods required in paragraphs (a)(3) and (a)(4) of this section if the method has been approved by the Administrator.

(b) After the installation of a collection and control system in compliance with §60.755, the owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in §60.752(b)(2)(v), using the following equation:

Bannock County will use the following equation, monitoring equipment, and practices to determine when the system can be removed, and anticipates this requirement in the Title V permit.

$$M_{\text{NMOC}} = 1.89 \times 10^{-3} Q_{\text{LFG}} C_{\text{NMOC}}$$

where,

M_{NMOC} = mass emission rate of NMOC, megagrams per year

Q_{LFG} = flow rate of landfill gas, cubic meters per minute

C_{NMOC} = NMOC concentration, parts per million by volume as hexane

(1) The flow rate of landfill gas, Q_{LFG} , shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of appendix A of this part.

(2) The average NMOC concentration, C_{NMOC} , shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of appendix A of this part. If using Method 18 of appendix A of this part, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill owner or operator shall divide the NMOC concentration from Method 25C of appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

Bannock County chooses to use Method 25C to determine NMOC concentration.

(3) The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

(c) When **calculating emissions for PSD purposes**, the owner or operator of each MSW landfill subject to the provisions of this subpart shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in §§51.166 or 52.21 of this chapter using AP-42 or other approved measurement procedures.

(d) For the **performance test** required in §60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of appendix A of this part must be used to determine compliance with the 98 weight-percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by §60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A of this part, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency:

The performance test required by §60.752(b)(2)(iii)(B), applies to landfills at which NMOC generation rates exceed 50 Mg/yr. Bannock County will initiate such performance tests after that threshold is exceeded, estimated in about 2024. This effort will be coordinated with any monitoring required by 40 CFR 98 (Greenhouse Gas reporting)

$$\text{Control Efficiency} = (\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}) / (\text{NMOC}_{\text{in}})$$

where,

NMOC_{in} = mass of NMOC entering control device

NMOC_{out} = mass of NMOC exiting control device

(e) For the performance test required in §60.752(b)(2)(iii)(A), the net heating value of the combusted landfill gas as determined in §60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under §60.18(f)(4).

The performance test required by §60.752(b)(2)(iii)(A), applies to landfills at which NMOC generation rates exceed 50 Mg/yr. Bannock County will initiate such performance tests after that threshold is exceeded in about 2024. This effort will be coordinated with any monitoring required by 40 CFR 98 (Greenhouse Gas reporting)

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32751, June 16, 1998; 65 FR 18908, Apr. 10, 2000; 65 FR 61778, Oct. 17, 2000; 71 FR 55127, Sept. 21, 2006]

§ 60.755 Compliance provisions.

(a) Except as provided in §60.752(b)(2)(i)(B), the specified methods in paragraphs (a)(1) through (a)(6) of this section shall be used to determine whether the gas collection system is in compliance with §60.752(b)(2)(ii).

The compliance tests listed in paragraphs (a)(1) through (a)(6) of this section, apply to landfills at which NMOC generation rates exceed 50 Mg/yr. Bannock County will initiate such compliance tests after that threshold is exceeded in about 2024.

(1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with §60.752(b)(2)(ii)(A)(1), one of the following equations shall be used. The k and L_o kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42) or other site specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in §60.754(a)(4), the value of k determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(i) For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_oR (e^{-kc} - e^{-kt})$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year

L_o = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

k = methane generation rate constant, year⁻¹

t = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years

c = time since closure, years (for an active landfill $c = 0$ and $e^{-kc} = 1$)

(ii) For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^n 2kL_oM_i(e^{-kt_i})$$

where,

Q_M = maximum expected gas generation flow rate, cubic meters per year

k = methane generation rate constant, year⁻¹

L_0 =methane generation potential, cubic meters per megagram solid waste

M_i =mass of solid waste in the i^{th} section, megagrams

t_i =age of the i^{th} section, years

(iii) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in paragraphs (a)(1) (i) and (ii) of this section. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in paragraphs (a)(1) (i) or (ii) or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

(2) For the purposes of determining sufficient density of gas collectors for compliance with §60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

(3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with §60.752(b)(2)(ii)(A)(3), the owner or operator shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under §60.753(b). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

(4) Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

(5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in §60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

(6) An owner or operator seeking to demonstrate compliance with §60.752(b)(2)(ii)(A)(4) through the use of a collection system not conforming to the specifications provided in §60.759 shall provide information satisfactory to the Administrator as specified in §60.752(b)(2)(i)(C) demonstrating that off-site migration is being controlled.

Compliance with §60.753(a) applies to landfills at which NMOC generation rates exceed 50 Mg/yr. Bannock County will initiate such actions after that threshold is exceeded in about 2024.

(b) For purposes of compliance with §60.753(a), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in §60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

- (1) 5 years or more if active; or
- (2) 2 years or more if closed or at final grade.

Compliance §60.753(d) is tied to §60.752(b), and applies to landfills at which NMOC generation rates exceeds 50 Mg/yr. Bannock County will comply with procedures listed in parts 40 CFR 60.755 (c), (d), and (e) below after that threshold is exceeded.

(c) The following procedures shall be used for compliance with the surface methane operational standard as provided in §60.753(d).

- (1) After installation of the collection system, the owner or operator shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph (d) of this section.
- (2) The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.
- (3) Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of this part, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.
- (4) Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in paragraphs (c)(4)(i) through (v) of this section shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §60.753(d).

(i) The location of each monitored exceedance shall be marked and the location recorded.

(ii) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.

(iii) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (c)(4)(v) of this section shall be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(v) has been taken.

(iv) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-

monitoring specified in paragraph (c)(4) (ii) or (iii) of this section shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in paragraph (c)(4) (iii) or (v) shall be taken.

(v) For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

(5) The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d) Each owner or operator seeking to comply with the provisions in paragraph (c) of this section shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

(1) The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of appendix A of this part, except that "methane" shall replace all references to VOC.

(2) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.

(3) To meet the performance evaluation requirements in section 3.1.3 of Method 21 of appendix A of this part, the instrument evaluation procedures of section 4.4 of Method 21 of appendix A of this part shall be used.

(4) The calibration procedures provided in section 4.2 of Method 21 of appendix A of this part shall be followed immediately before commencing a surface monitoring survey.

(e) The provisions of this subpart apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32752, June 16, 1998]

§ 60.756 Monitoring of operations.

Except as provided in §60.752(b)(2)(i)(B),

Compliance with §60.752(b)(2) applies to landfills at which NMOC generation rates exceed 50 Mg/yr. Bannock County will comply with procedures listed in 40 CFR 60.756 (a) through (f) below after that threshold is exceeded.

(a) Each owner or operator seeking to comply with §60.752(b)(2)(ii)(A) for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:

(1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in §60.755(a)(3); and

(2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in §60.755(a)(5); and

(3) Monitor temperature of the landfill gas on a monthly basis as provided in §60.755(a)(5).

(b) Each owner or operator seeking to comply with §60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.

(1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.

(2) A device that records flow to or bypass of the control device. The owner or operator shall either:

(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(c) Each owner or operator seeking to comply with §60.752(b)(2)(iii) using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(1) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.

(2) A device that records flow to or bypass of the flare. The owner or operator shall either:

(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(d) Each owner or operator seeking to demonstrate compliance with §60.752(b)(2)(iii) using a device other than an open flare or an enclosed combustor shall provide information satisfactory to the Administrator as provided in §60.752(b)(2)(i)(B) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator shall review the information and either approve it, or request that

additional information be submitted. The Administrator may specify additional appropriate monitoring procedures.

(e) Each owner or operator seeking to install a collection system that does not meet the specifications in §60.759 or seeking to monitor alternative parameters to those required by §60.753 through §60.756 shall provide information satisfactory to the Administrator as provided in §60.752(b)(2)(i) (B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures.

(f) Each owner or operator seeking to demonstrate compliance with §60.755(c), shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in §60.755(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32752, June 16, 1998; 65 FR 18909, Apr. 10, 2000]

§ 60.757 Reporting requirements.

Except as provided in §60.752(b)(2)(i)(B),

(a) Each owner or operator subject to the requirements of this subpart shall submit an **initial design capacity report** to the Administrator.

Bannock County's Fort Hall Mine Road municipal solid waste landfill submitted an Initial Design Capacity Report on February 3, 1997.

(1) The initial design capacity report shall fulfill the requirements of the notification of the date construction is commenced as required by §60.7(a)(1) and shall be submitted no later than:

(i) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991 but before March 12, 1996 or

(ii) Ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

(2) The initial design capacity report shall contain the following information:

(i) A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be land-filled according to the permit issued by the State, local, or tribal agency responsible for regulating the landfill.

(ii) The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by the State, local, or tribal agency responsible for regulating the landfill, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity shall be calculated using good engineering practices. The calculations shall be provided, along with the relevant parameters as part of

the report. The State, Tribal, local agency or Administrator may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

(3) An amended design capacity report shall be submitted to the Administrator providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to or above 2.5 million megagrams and 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in §60.758(f).

Bannock County's Fort Hall Mine Road municipal solid waste landfill has a current Design Capacity of 3.703 MMg. An Amended Design Capacity Report reflecting that total was filed with DEQ on April 26, 2010.

(b) Each owner or operator subject to the requirements of this subpart shall submit an NMOC emission rate report to the Administrator initially and annually thereafter, except as provided for in paragraphs (b)(1)(ii) or (b)(3) of this section. The Administrator may request such additional information as may be necessary to verify the reported NMOC emission rate.

The Fort Hall Mine Road municipal solid waste landfill's calculated NMOC emission rate is 7.310 Mg/yr for 2009. An Annual NMOC Emissions Report reflecting that total was filed with DEQ on April 21, 2010.

(1) The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in §60.754(a) or (b), as applicable.

Bannock County chooses to submit annual NMOC emission rate reports in compliance with 40 CFR 60.757(b)(1), and (b)(2).

(i) The initial NMOC emission rate report may be combined with the initial design capacity report required in paragraph (a) of this section and shall be submitted no later than indicated in paragraphs (b)(1)(i)(A) and (B) of this section. Subsequent NMOC emission rate reports shall be submitted annually thereafter, except as provided for in paragraphs (b)(1)(ii) and (b)(3) of this section.

(A) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991, but before March 12, 1996, or

(B) Ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.

(ii) If the estimated NMOC emission rate as reported in the annual report to the Administrator is less than 50 megagrams per year in each of the next 5 consecutive years, the owner or operator may elect to submit an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. This estimate shall include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based shall be provided to the Administrator. This estimate shall be revised at least once every 5 years. If the actual waste acceptance rate exceeds

the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate shall be submitted to the Administrator. The revised estimate shall cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

(2) The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions.

(3) Each owner or operator subject to the requirements of this subpart is exempted from the requirements of paragraphs (b)(1) and (2) of this section, after the installation of a collection and control system in compliance with §60.752(b)(2), during such time as the collection and control system is in operation and in compliance with §§60.753 and 60.755.

Compliance with §60.752(b)(2) applies to landfills at which NMOC generation rates exceeds 50 Mg/yr. Bannock County will comply with procedures listed in 40 CFR 60.757(b) (3) after that threshold is exceeded.

(c) Each owner or operator subject to the provisions of §60.752(b)(2)(i) shall submit a collection and control system design plan to the Administrator within 1 year of the first report required under paragraph (b) of this section in which the **emission rate equals or exceeds 50 megagrams per year**, except as follows:

Bannock County has made measurements at the Ft. Hall Mine Road Landfill of site-specific NMOC concentration for purposes of scoping prospective performance of the LFG collection system, and chooses to comply with Tier 2 procedures, to calculate NMOC production for purposes of determining when NMOC production exceeds 50 Mg/yr.

(1) If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in §60.754(a)(3) and the resulting rate is less than 50 megagrams per year, **annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration**, until the calculated emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted within 180 days of the first calculated exceedance of 50 megagrams per year.

(2) If the owner or operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant (k), as provided in Tier 3 in §60.754(a)(4), and the resulting NMOC emission rate is less than 50 Mg/yr, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of §60.754(a)(4) and the resulting site-specific methane generation rate constant (k) shall be submitted to the Administrator within 1 year of the first calculated emission rate exceeding 50 megagrams per year.

(d) Each owner or operator of a controlled landfill shall **submit a closure report** to the Administrator within 30 days of waste acceptance cessation. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4).

Bannock County will submit the Closure Report called for in this part when the landfill closes.

(e) Each owner or operator of a controlled landfill shall **submit an equipment removal report** to the Administrator 30 days prior to removal or cessation of operation of the control equipment.

Bannock County will submit the equipment removal report called for in this part when landfill gas extraction concludes.

(1) The equipment removal report shall contain all of the following items:

(i) A copy of the closure report submitted in accordance with paragraph (d) of this section;

(ii) A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and

(iii) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

(2) The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met.

Compliance with 40 CFR 60.752(b)(2) applies to landfills at which NMOC generation rates exceeds 50 Mg/yr. Bannock County will comply with procedures listed in part 60.757 (f) and (g) below after that threshold is exceeded.

(f) Each owner or operator of a landfill **seeking to comply with §60.752(b)(2)** using an active collection system designed in accordance with §60.752(b)(2)(ii) shall submit to the Administrator annual reports of the recorded information in (f)(1) through (f)(6) of this paragraph. The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under §60.8. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c).

(1) Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (b), (c), and (d).

(2) Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.

(3) Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.

(4) All periods when the collection system was not operating in excess of 5 days.

(5) The location of each exceedance of the 500 parts per million methane concentration as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.

(6) The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of §60.755.

(g) Each owner or operator seeking to comply with §60.752(b)(2)(iii) shall include the following information with the initial performance test report required under §60.8:

- (1) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;
- (2) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;
- (3) The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;
- (4) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area; and
- (5) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and
- (6) The provisions for the control of off-site migration.

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32752, June 16, 1998; 65 FR 18909, Apr. 10, 2000]

§ 60.758 Recordkeeping requirements.

(a) Except as provided in §60.752(b)(2)(i)(B), each owner or operator of an MSW landfill **subject to the provisions of §60.752(b)** shall keep for at least 5 years up-to-date, readily accessible, on-site records of the **design capacity report** which triggered §60.752(b), the current amount of **solid waste in-place**, and the **year-by-year waste acceptance rate**. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

Bannock County will comply 40 CFR 60.759 (a), and anticipates that this requirement will be included in the Title V permit.

(b) Except as provided in §60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the **life of the control equipment** of the data listed in paragraphs (b)(1) through (b)(4) of this section as measured during the **initial performance test** or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the **control device vendor specifications shall be maintained until removal**.

Compliance §60.752(b) applies to landfills at which NMOC generation rates exceeds 50 Mg/yr. Bannock County will comply with procedures listed in parts (b) below after that threshold is exceeded.

(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate **compliance with §60.752(b)(2)(ii):**

(i) The maximum expected gas generation flow rate as calculated in §60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator.

(ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §60.759(a)(1).

(2) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.752(b)(2)(iii) through use of an **enclosed combustion device other than a boiler or process heater** with a design heat input capacity equal to or greater than 44 megawatts:

(i) The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(ii) The percent reduction of NMOC determined as specified in §60.752(b)(2)(iii)(B) achieved by the control device.

(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.752(b)(2)(iii)(B)(1) through use of a boiler or process heater of any size: a description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.

(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.752(b)(2)(iii)(A) through use of an **open flare**, the flare type (i.e., steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the **performance test** as specified in §60.18; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

Compliance §60.752(b) applies to landfills at which NMOC generation rates exceeds 50 Mg/yr. Bannock County will comply with procedures listed in parts (c) through (f) below after that threshold is exceeded. Prior to that time, Bannock County will comply with 40 CFR 60.758 (c)(2) and (c)(4), below. These requirements parallel GHG monitoring requirements of 40 CFR 98.

(c) Except as provided in §60.752(b)(2)(i)(B), each owner or operator of a controlled landfill subject to the provisions of this subpart shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in §60.756 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(1) The following constitute exceedances that shall be recorded and reported under §60.757(f):

(i) For **enclosed combustors** except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28 ° C below the average combustion temperature during the most recent performance test at which compliance with §60.752(b)(2)(iii) was determined.

(ii) For **boilers or process heaters**, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under paragraph (b)(3) of this section.

(2) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the indication of **flow to the control device** or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §60.756.

(3) Each owner or operator subject to the provisions of this subpart who uses a **boiler or process heater** with a design heat input capacity of 44 megawatts or greater to comply with §60.752(b)(2)(iii) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State, local, Tribal, or Federal regulatory requirements.)

(4) Each owner or operator seeking to comply with the provisions of this subpart by use of an **open flare** shall keep up-to-date, readily accessible continuous records of the **flame or flare pilot flame monitoring** specified under §60.756(c), and up-to-date, readily accessible records of all **periods of operation in which the flame or flare pilot flame is absent**.

Compliance §60.752(b) applies to landfills at which NMOC generation rates exceeds 50 Mg/yr. Bannock County will comply with procedures listed in parts (c) through (f) below after that threshold is exceeded. Prior to that time, Bannock County will voluntarily comply with 40 CFR 60.758 (d), below. That requirement parallels GHG monitoring requirements of 40 CFR 98.

(d) Except as provided in §60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall keep for the life of the collection system an up-to-date, readily accessible plot map showing **each existing and planned collector in the system** and providing a unique identification location label for each collector.

(1) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of the **installation date and location of all newly installed collectors** as specified under §60.755(b).

(2) Each owner or operator subject to the provisions of this subpart shall keep readily accessible documentation of the nature, date of deposition, amount, and location of **asbestos-containing or nondegradable waste excluded from collection** as provided in §60.759(a)(3)(i) as well as any **nonproductive areas excluded from collection** as provided in §60.759(a)(3)(ii).

(e) Except as provided in §60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system **exceedances of the operational standards in §60.753**, the reading in the

subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

(f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity", shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32752, June 16, 1998; 65 FR 18909, Apr. 10, 2000]

§ 60.759 Specifications for active collection systems.

Compliance §60.752(b)(2)(I) applies to landfills at which NMOC generation rates exceeds 50 Mg/yr. Bannock County will comply with procedures listed in parts (a) through (c) below after that threshold is exceeded.

(a) Each owner or operator seeking to comply with §60.752(b)(2)(i) shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Administrator as provided in §60.752(b)(2)(i)(C) and (D):

(1) The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat.

(2) The sufficient density of gas collection devices determined in paragraph (a)(1) of this section shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

(3) The placement of gas collection devices determined in paragraph (a)(1) of this section shall control all gas producing areas, except as provided by paragraphs (a)(3)(i) and (a)(3)(ii) of this section.

(i) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under §60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the Administrator upon request.

(ii) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Administrator upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be

compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation:

$$Q_i = 2 k L_o M_i (e^{-kt_i}) (C_{NMOC}) (3.6 \times 10^{-9})$$

where,

Q_i = NMOC emission rate from the i^{th} section, megagrams per year

k = methane generation rate constant, year⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of the degradable solid waste in the i^{th} section, megagram

T_i = age of the solid waste in the i^{th} section, years

C_{NMOC} = concentration of non-methane organic compounds, parts per million by volume

3.6×10^{-9} = conversion factor

(iii) The values for k and C_{NMOC} determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k , L_o and C_{NMOC} provided in §60.754(a)(1) or the alternative values from §60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph (a)(3)(i) of this section.

(b) Each owner or operator seeking to comply with §60.752(b)(2)(i)(A) shall construct the gas collection devices using the following equipment or procedures:

(1) The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.

(2) Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

(c) Each owner or operator seeking to comply with §60.752(b)(2)(i)(A) shall convey the landfill gas to a control system in compliance with §60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:

(1) For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph (c)(2) of this section shall be used.

(2) For new collection systems, the maximum flow rate shall be in accordance with §60.755(a)(1).

[61 FR 9919, Mar. 12, 1996, as amended at 63 FR 32753, June 16, 1998; 64 FR 9262, Feb. 24, 1999; 65 FR 18909, Apr. 10, 2000]

End WWW

TITLE 40--PROTECTION OF ENVIRONMENT
CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)
PART 63--NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR
SOURCE CATEGORIES

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2.6.3

Subpart AAAA -- National Emission Standards for Hazardous Air Pollutants : Municipal Solid Waste Landfills

Source: 68 FR 2238, Jan. 16, 2003, unless otherwise noted.

What This Subpart Covers

§ 63.1930 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills. This subpart requires all landfills described in §63.1935 to meet the requirements of 40 CFR Part 60, subpart Cc or WWW and requires timely control of bioreactors. This subpart also requires such landfills to meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions of this part and provides that compliance with the operating conditions shall be demonstrated by parameter monitoring results that are within the specified ranges. It also includes additional reporting requirements.

§ 63.1935 Am I subject to this subpart?

You are subject to this subpart if you meet the criteria in paragraph (a) or (b) of this section.

(a) You are subject to this subpart if you own or operate a MSW landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and meets any one of the three criteria in paragraphs (a)(1) through (3) of this section:

(1) Your MSW landfill is a major source as defined in 40 CFR 63.2 of subpart A.

Bannock County's Ft. Hall Mine Road Landfill is not a major source as defined in 40 CFR 63.2. The landfills projected TAP emissions, after control, are 0.177 Mg / year (0.195 tpy), which are well below the major source threshold of 10 tpy for an individual TAP and 25 tpy of all TAPs in aggregate.

(2) Your MSW landfill is collocated with a major source as defined in 40 CFR 63.2 of subpart A.

Bannock County's Ft. Hall Mine Road Landfill is not co-located with a major source as defined in 40 CFR 63.2.

(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to §60.754(a) of the MSW landfills new source performance standards in 40 CFR part 60, subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan that applies to your landfill.

Bannock County's Ft. Hall Mine Road Landfill currently has a Design Capacity of 3.703 MMg, as reported in an Amended Design Capacity Report filed on April 26, 2010. The landfill does not produce NMOC in excess of 50 Mg/yr, and is not expected to exceed 50 Mg/yr NMOC until approximately 2024. Calculated [2009] uncontrolled NMOC generation for the landfill is 6.937 Mg/yr, as reported in an annual NMOC Generation Report filed on April 21, 2010. This NMOC production quantity is based on LandGEM calculations using actual gate receipts for waste placed, and site-specific measurements of the NMOC generation factor, made in accordance with §60.754(a) of the MSW landfills' New Source Performance Standards in 40 CFR part 60, subpart WWW.

(b) You are subject to this subpart if you own or operate a MSW landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition, that includes a bioreactor, as defined in §63.1990, and that meets any one of the criteria in paragraphs (b)(1) through (3) of this section:

§63.1990: "Bioreactor means a MSW landfill or portion of a MSW landfill where any liquid other than leachate (leachate includes landfill gas condensate) is added in a controlled fashion into the waste mass (often in combination with re-circulating leachate) to reach a minimum average moisture content of at least 40 percent by weight to accelerate or enhance the anaerobic (without oxygen) biodegradation of the waste."

Bannock County's Ft. Hall Mine Road Landfill does have additional capacity for waste deposition. It does not have a bioreactor, however, as defined in §63.1990 and cited above. Because the landfill does not meet the requirements of §63.1935 (a) or (b), the remainder of this subpart is not applicable to the Ft. Hall Mine Road Landfill.

- (1) Your MSW landfill is a major source as defined in 40 CFR 63.2 of subpart A.
- (2) Your MSW landfill is collocated with a major source as defined in 40 CFR 63.2 of subpart A.
- (3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ and that is not permanently closed as of January 16, 2003.

§ 63.1940 What is the affected source of this subpart?

(a) An affected source of this subpart is a MSW landfill, as defined in §63.1990, that meets the criteria in §63.1935(a) or (b). The affected source includes the entire disposal facility in a contiguous geographic space where household waste is placed in or on land, including any portion of the MSW landfill operated as a bioreactor.

The landfill is not an "Affected Source" per this subpart.

(b) A new affected source of this subpart is an affected source that commenced construction or reconstruction after November 7, 2000. An affected source is reconstructed if it meets the definition of reconstruction in 40 CFR 63.2 of subpart A.

(c) An affected source of this subpart is existing if it is not new.

§ 63.1945 When do I have to comply with this subpart?

Bannock County will continue to evaluate annual NMOC production, and to file annual NMOC Generation Reports in April. The NMOC production quantity will be based on LandGEM calculations using actual gate receipts for waste placed, and site-specific

measurements of the NMOC generation factor, made in accordance with §60.754(a) of the MSW landfills' New Source Performance Standards in 40 CFR part 60, subpart WWW. The landfill is not expected to exceed 50 Mg/yr NMOC until approximately 2024. Compliance with this subpart will be re-evaluated at such time as NMOC emissions at the landfill exceed the 50 Mg/yr threshold.

(a) If your landfill is a new affected source, you must comply with this subpart by January 16, 2003 or at the time you begin operating, whichever is last.

(b) If your landfill is an existing affected source, you must comply with this subpart by January 16, 2004.

(c) If your landfill is a new affected source and is a major source or is collocated with a major source, you must comply with the requirements in §§63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW.

(d) If your landfill is an existing affected source and is a major source or is collocated with a major source, you must comply with the requirements in §§63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or EPA approved and effective State or tribal plan that applies to your landfill or by January 13, 2004, whichever occurs later.

(e) If your landfill is a new affected source and is an area source meeting the criteria in §63.1935(a)(3), you must comply with the requirements of §§63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW.

(f) If your landfill is an existing affected source and is an area source meeting the criteria in §63.1935(a)(3), you must comply with the requirements in §§63.1955(b) and 63.1960 through 63.1980 by the date your landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or EPA approved and effective State or tribal plan that applies to your landfill or by January 16, 2004, whichever occurs later.

§ 63.1947 When do I have to comply with this subpart if I own or operate a bioreactor?

Bannock County's Ft. Hall Mine Road Landfill does not have a bioreactor, as defined in §63.1990

You must comply with this subpart by the dates specified in §63.1945(a) or (b) of this subpart. If you own or operate a bioreactor located at a landfill that is not permanently closed as of January 16, 2003 and has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³, then you must install and operate a collection and control system that meets the criteria in 40 CFR 60.752(b)(2)(v) of part 60, subpart WWW, the Federal plan, or EPA approved and effective State plan according to the schedule specified in paragraph (a), (b), or (c) of this section.

(a) If your bioreactor is at a new affected source, then you must meet the requirements in paragraphs (a)(1) and (2) of this section:

(1) Install the gas collection and control system for the bioreactor before initiating liquids addition.

(2) Begin operating the gas collection and control system within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later. If you choose to begin gas collection and control system operation 180 days after achieving a 40 percent moisture content instead of 180 days after liquids addition, use the

procedures in §63.1980(g) and (h) to determine when the bioreactor moisture content reaches 40 percent.

(b) If your bioreactor is at an existing affected source, then you must install and begin operating the gas collection and control system for the bioreactor by January 17, 2006 or by the date your bioreactor is required to install a gas collection and control system under 40 CFR part 60, subpart WWW, the Federal plan, or EPA approved and effective State plan or tribal plan that applies to your landfill, whichever is earlier.

(c) If your bioreactor is at an existing affected source and you do not initiate liquids addition to your bioreactor until later than January 17, 2006, then you must meet the requirements in paragraphs (c)(1) and (2) of this section:

(1) Install the gas collection and control system for the bioreactor before initiating liquids addition.

(2) Begin operating the gas collection and control system within 180 days after initiating liquids addition or within 180 days after achieving a moisture content of 40 percent by weight, whichever is later. If you choose to begin gas collection and control system operation 180 days after achieving a 40 percent moisture content instead of 180 days after liquids addition, use the procedures in §63.1980(g) and (h) to determine when the bioreactor moisture content reaches 40 percent.

§ 63.1950 When am I no longer required to comply with this subpart?

Bannock County will continue to evaluate annual NMOC production, and to file annual NMOC Generation Reports in April. Compliance with this subpart will be re-evaluated at such time as NMOC emissions at the landfill exceed the 50 Mg/yr threshold.

You are **no longer required to comply** with the requirements of this subpart when you are no longer required to apply controls as specified in 40 CFR 60.752(b)(2)(v) of subpart WWW, or the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc, whichever applies to your landfill.

§ 63.1952 When am I no longer required to comply with the requirements of this subpart if I own or operate a bioreactor?

Bannock County's Ft. Hall Mine Road Landfill does not have a bioreactor, as defined in §63.1990

If you own or operate a landfill that includes a bioreactor, you are no longer required to comply with the requirements of this subpart for the bioreactor provided you meet the conditions of either paragraphs (a) or (b).

(a) Your affected source meets the control system removal criteria in 40 CFR 60.752(b)(2)(v) of part 60, subpart WWW or the bioreactor meets the criteria for a nonproductive area of the landfill in 40 CFR 60.759(a)(3)(ii) of part 60, subpart WWW.

(b) The bioreactor portion of the landfill is a closed landfill as defined in 40 CFR 60.751, subpart WWW, you have permanently ceased adding liquids to the bioreactor, and you have not added liquids to the bioreactor for at least 1 year. A closure report for the bioreactor must be submitted to the Administrator as provided in 40 CFR 60.757(d) of subpart WWW.

(c) Compliance with the bioreactor control removal provisions in this section constitutes compliance with 40 CFR part 60, subpart WWW or the Federal plan, whichever applies to your bioreactor.

Standards

§ 63.1955 What requirements must I meet?

(a) You must fulfill one of the requirements in paragraph (a)(1) or (2) of this section, whichever is applicable:

(1) Comply with the requirements of 40 CFR part 60, subpart WWW.

(2) Comply with the requirements of the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc.

(b) If you are required by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan to install a collection and control system, you must comply with the requirements in §§63.1960 through 63.1985 and with the general provisions of this part specified in table 1 of this subpart.

(c) For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, you must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR part 60 subpart WWW or the Federal plan, or EPA approved and effective State or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the SSM requirements in Subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in §63.1980(a) and (b), including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average.

(d) If you own or operate a bioreactor that is located at a MSW landfill that is not permanently closed and has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³, then you must meet the requirements of paragraph (a) and the additional requirements in paragraphs (d)(1) and (2) of this section.

(1) You must comply with the general provisions specified in Table 1 of this subpart and §§63.1960 through 63.1985 starting on the date you are required to install the gas collection and control system.

(2) You must extend the collection and control system into each new cell or area of the bioreactor prior to initiating liquids addition in that area, instead of the schedule in 40 CFR 60.752(b)(2)(ii)(A)(2).

General and Continuing Compliance Requirements

Requirements are not applicable because the landfill meets the exemption requirements of 40 CFR 63.1935 (a)(3).

§ 63.1960 How is compliance determined?

Compliance is determined in the same way it is determined for 40 CFR part 60, subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data, collected under 40 CFR 60.756(b)(1), (c)(1), and (d) of subpart WWW, are used to demonstrate compliance with the operating conditions for control systems. If a deviation occurs, you have failed to meet the control device operating conditions described in this subpart and have deviated from the requirements of this subpart. Finally, you must develop a written SSM plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of this subpart.

[68 FR 2238, Jan. 16, 2003, as amended at 71 FR 20462, Apr. 20, 2006]

§ 63.1965 What is a deviation?

A deviation is defined in §63.1990. For the purposes of the landfill monitoring and SSM plan requirements, deviations include the items in paragraphs (a) through (c) of this section.

(a) A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) of subpart WWW are exceeded.

(b) A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.

(c) A deviation occurs when a SSM plan is not developed or maintained on site.

[68 FR 2238, Jan. 16, 2003, as amended at 71 FR 20462, Apr. 20, 2006]

§ 63.1975 How do I calculate the 3-hour block average used to demonstrate compliance?

Averages are calculated in the same way as they are calculated in 40 CFR part 60, subpart WWW, except that the data collected during the events listed in paragraphs (a), (b), (c), and (d) of this section are not to be included in any average computed under this subpart:

(a) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments.

(b) Startups.

(c) Shutdowns.

(d) Malfunctions.

Notifications, Records, and Reports

Requirements are not applicable because the landfill meets the exemption requirements of 40 CFR 63.1935 (a)(3).

§ 63.1980 What records and reports must I keep and submit?

(a) Keep records and reports as specified in 40 CFR part 60, subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR part 60, subpart Cc, whichever applies to your landfill, with one exception: You must submit the annual report described in 40 CFR 60.757(f) every 6 months.

(b) You must also keep records and reports as specified in the general provisions of 40 CFR part 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.

(c) For bioreactors at new affected sources you must submit the initial semiannual compliance report and performance test results described in 40 CFR 60.757(f) within 180 days after the date you are required to begin operating the gas collection and control system by §63.1947(a)(2) of this subpart.

(d) For bioreactors at existing affected sources, you must submit the initial semiannual compliance report and performance test results described in 40 CFR 60.757(f) within 180 days after the compliance date specified in §63.1947(b) of this subpart, unless you have previously submitted a compliance report for the bioreactor required by 40 CFR part 60, subpart WWW, the Federal plan, or an EPA approved and effective State plan or tribal plan.

(e) For bioreactors that are located at existing affected sources, but do not initiate liquids addition until later than the compliance date in §63.1947(b) of this subpart, you must submit the initial semiannual compliance report and performance test results described in 40 CFR 60.757(f) within 180 days after the date you are required to begin operating the gas collection and control system by §63.1947(c) of this subpart.

(f) If you must submit a semiannual compliance report for a bioreactor as well as a semiannual compliance report for a conventional portion of the same landfill, you may delay submittal of a subsequent semiannual compliance report for the bioreactor according to paragraphs (f)(1) through (3) of this section so that the reports may be submitted on the same schedule.

(1) After submittal of your initial semiannual compliance report and performance test results for the bioreactor, you may delay submittal of the subsequent semiannual compliance report for the bioreactor until the date the initial or subsequent semiannual compliance report is due for the conventional portion of your landfill.

(2) You may delay submittal of your subsequent semiannual compliance report by no more than 12 months after the due date for submitting the initial semiannual compliance report and performance test results described in 40 CFR 60.757(f) for the bioreactor. The report shall cover the time period since the previous semiannual report for the bioreactor, which would be a period of at least 6 months and no more than 12 months.

(3) After the delayed semiannual report, all subsequent semiannual reports for the bioreactor must be submitted every 6 months on the same date the semiannual report for the conventional portion of the landfill is due.

(g) If you add any liquids other than leachate in a controlled fashion to the waste mass and do not comply with the bioreactor requirements in §§63.1947, 63.1955(c) and 63.1980(c) through (f) of this subpart, you must keep a record of calculations showing that the percent moisture by weight expected in the waste mass to which liquid is added is less than 40 percent. The calculation must consider the waste mass, moisture content of the incoming waste, mass of water added to the waste including leachate recirculation and other liquids addition and precipitation, and the mass of water removed through leachate or other water losses. Moisture level sampling or mass

balances calculations can be used. You must document the calculations and the basis of any assumptions. Keep the record of the calculations until you cease liquids addition.

(h) If you calculate moisture content to establish the date your bioreactor is required to begin operating the collection and control system under §63.1947(a)(2) or (c)(2), keep a record of the calculations including the information specified in paragraph (g) of this section for 5 years. Within 90 days after the bioreactor achieves 40 percent moisture content, report the results of the calculation, the date the bioreactor achieved 40 percent moisture content by weight, and the date you plan to begin collection and control system operation.

Other Requirements and Information

§ 63.1985 Who enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency as well as the U.S. EPA has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are as follows. Approval of alternatives to the standards in §63.1955. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

§ 63.1990 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, 40 CFR part 60, subparts A, Cc, and WWW; 40 CFR part 62, subpart GGG, and subpart A of this part, and this section that follows:

Bioreactor means a MSW landfill or portion of a MSW landfill where **any liquid other than leachate (leachate includes landfill gas condensate)** is added in a controlled fashion into the waste mass (often in combination with re-circulating leachate) to reach a minimum average moisture content of at least 40 percent by weight to accelerate or enhance the anaerobic (without oxygen) biodegradation of the waste.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including, but not limited to, any emissions limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation, (including any operating limit), or work practice standard in this subpart during SSM, regardless of whether or not such failure is permitted by this subpart.

Emissions limitation means any emission limit, opacity limit, operating limit, or visible emissions limit.

EPA approved State plan means a State plan that EPA has approved based on the requirements in 40 CFR part 60, subpart B to implement and enforce 40 CFR part 60, subpart Cc. An approved State plan becomes effective on the date specified in the notice published in the Federal Register announcing EPA's approval.

Federal plan means the EPA plan to implement 40 CFR part 60, subpart Cc for existing MSW landfills located in States and Indian country where State plans or tribal plans are not currently in effect. On the effective date of an EPA approved State or tribal plan, the Federal plan no longer applies. The Federal plan is found at 40 CFR part 62, subpart GGG.

Municipal solid waste landfill or MSW landfill means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. A municipal solid waste landfill may also receive other types of RCRA Subtitle D wastes (see §257.2 of this chapter) such as commercial solid waste, non-hazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of a municipal solid waste landfill may be separated by access roads. A municipal solid waste landfill may be publicly or privately owned. A municipal solid waste landfill may be a new municipal solid waste landfill, an existing municipal solid waste landfill, or a lateral expansion.

Tribal plan means a plan submitted by a tribal authority pursuant to 40 CFR parts 9, 35, 49, 50, and 81 to implement and enforce 40 CFR part 60, subpart Cc.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

As stated in §§63.1955 and 63.1980, you must meet each requirement in the following table that applies to you.

Table 1 to Subpart AAAA of Part 63—Applicability of NESHAP General Provisions to Subpart AAAA

Part 63 Citation	Description	Explanation
63.1(a)	Applicability: general applicability of NESHAP in this part	Affected sources are already subject to the provisions of paragraphs (a)(10)–(12) through the same provisions under 40 CFR, part 60 subpart A.
63.1(b)	Applicability determination for stationary sources	
63.1(e)	Title V permitting	
63.2	Definitions	
63.4	Prohibited activities and circumvention	Affected sources are already subject to the provisions of paragraph (b) through the same provisions under 40 CFR, part 60 subpart A.
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources	
63.6(e)	Operation and maintenance requirements, startup,	

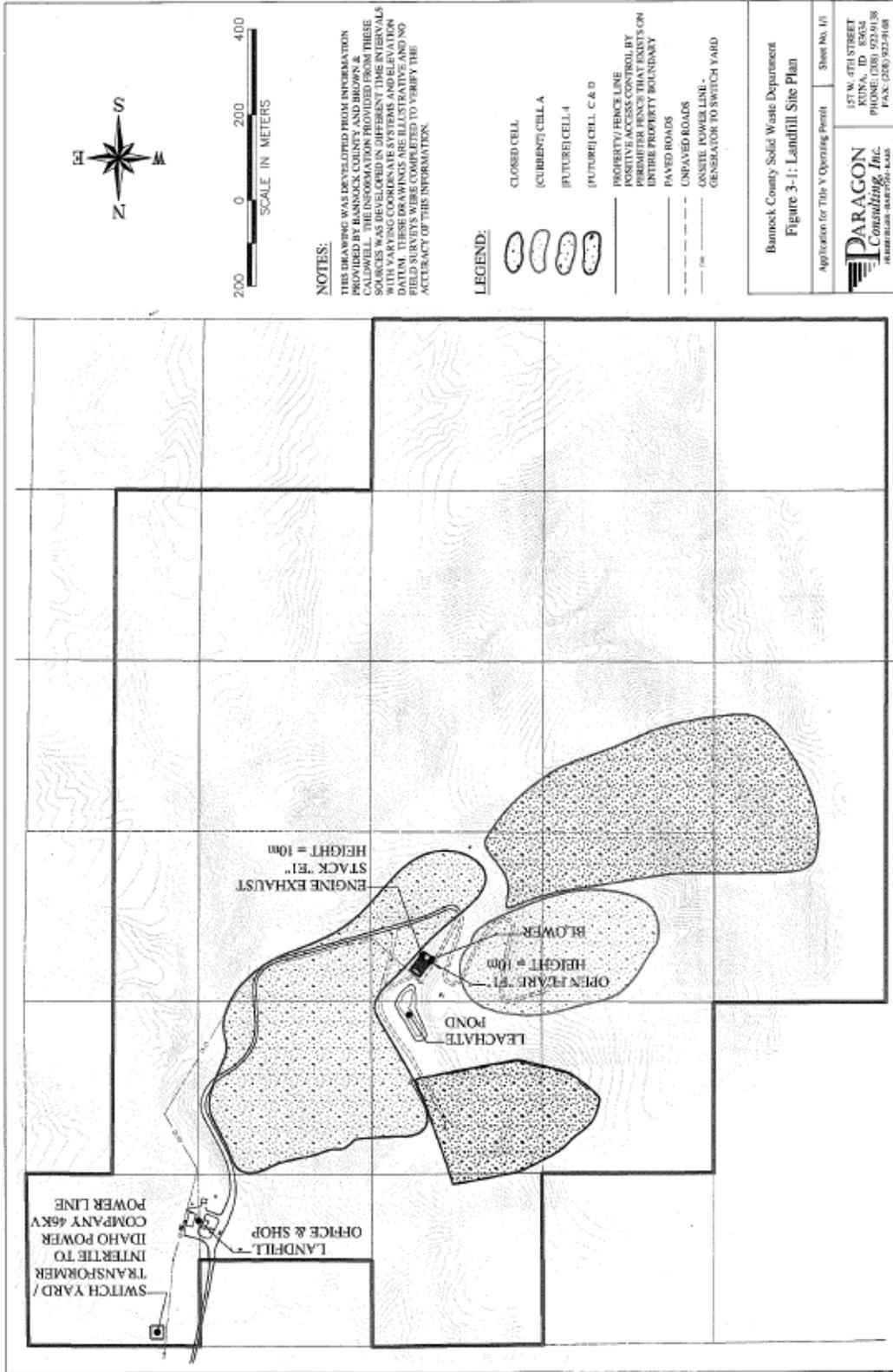
	shutdown and malfunction plan provisions	
63.6(f)	Compliance with non-opacity emission standards	Affected sources are already subject to the provisions of paragraphs (f)(1) and (2)(i) through the same provisions under 40 CFR, part 60 subpart A.
63.10(b)(2)(i)–(b)(2)(v)	General recordkeeping requirements	
63.10(d)(5)	If actions taken during a startup, shutdown and malfunction plan are consistent with the procedures in the startup, shutdown and malfunction plan, this information shall be included in a semi-annual startup, shutdown and malfunction plan report. Any time an action taken during a startup, shutdown and malfunction plan is not consistent with the startup, shutdown and malfunction plan, the source shall report actions taken within 2 working days after commencing such actions, followed by a letter 7 days after the event	
63.12(a)	These provisions do not preclude the State from adopting and enforcing any standard, limitation, etc., requiring permits, or requiring emissions reductions in excess of those specified	
63.15	Availability of information and confidentiality	

End AAAA

3.0 Additional Required Information not Covered by Equipment-Specific Application Forms

3.1 Plot Plan

The facility plot plan follows this page.



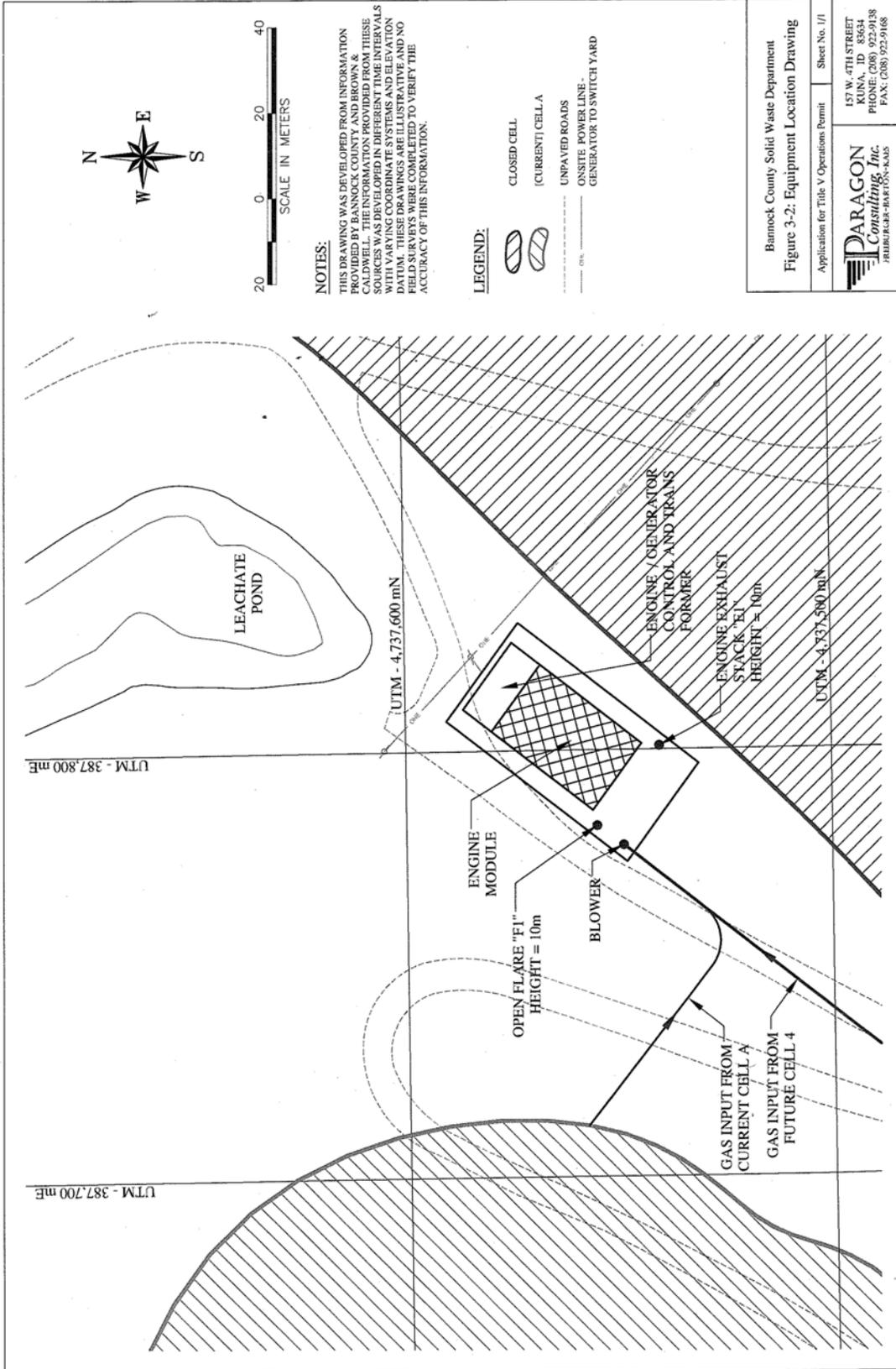
Bannock County Solid Waste Department
 Figure 3-1: Landfill Site Plan

Application for Title V Operating Permit Sheet No. 1/1

PARAGON Consulting, Inc.
 117 W. 4TH STREET
 KUNA, ID 83634
 PHONE: (208) 923-6138
 FAX: (208) 922-9188

3.2 Equipment Location Drawing

The Equipment Location Drawing follows this page.



Bannock County Solid Waste Department
 Figure 3-2: Equipment Location Drawing
 Application for Title V Operations Permit
 Sheet No. 1/1

DARAGON Consulting, Inc.
 117 W. 4TH STREET
 KANSAS CITY, MO 64108
 PHONE: (816) 922-9138
 FAX: (816) 922-9168

3.3 Equipment Description

LFG Conditioning and Water Removal

Landfill Gas Flow Landfill gas will be taken from a network of gas extraction wells and pulled toward the flare and engine by means negative pressure produced by a totally-enclosed centrifugal blower. During the year of maximum gas generation, the landfill gas flow rate is estimated to be 487 cfm (827 m³/hr, see PTC Exhibit 8-2C R1 provided in Section 2.3.1B). Liquid moisture that enters the LFG collection system will be removed from a collection sump located upstream of the gas mover and routed to the leachate collection pond shown on **Figure 3-1**.

LFG Moisture Condensate moisture that is removed from the gas handling system between the sump and the flare or engine is not expected to be significant. Pending installation and testing of the gas extraction system, the temperature of gas exiting the subsurface collection pipes is estimated at 25 C (77 F) per AP-42, Section 2.4. LFG will be saturated (100% humidity) prior to entering the gas mover, with an *absolute humidity* of 23 g/m³ (100% RH@ 77F). Assuming a temperature drop to 5 C (41 F) due to the exposed manifold and movement through the gas mover, *absolute humidity* will be decreased from 23 g/m³ (100% RH@ 77F) to 6.9 g/m³ (100% RH@ 41F). Using these data, condensed moisture from LFG handling is projected at approximately 222 grams/minute, or 0.06 gpm. At 41 F, moisture content at the flare / engine intake will be 6.9 g/m³, which is equivalent to 30% RH at 77 F.

Flare

The landfill gas flare is used to provide emissions control during periods of engine upset or maintenance. The flare is a CMI Energy, LLC Model FA2-1500 of un-guyed design with lightning protection. It has a capacity of 1500 CFM, which is adequate to accommodate the LFG from the landfill at the time of maximum production (estimated 2031). It utilizes a propane gas-fired pilot light, with its associated 500 gallon propane storage tank.

Engine

The engine that produces mechanical power from the combustion of landfill gas will be a Caterpillar Low-Emission Model 3516 engine that is factory-configured especially for landfill gas fuel. The engine is a 4-stroke, spark ignited, V-16 design, with a turbocharger/aftercooler. It has a displacement of 4211 cubic inches (69 L), and a compression ratio of [low emission model] of 8:1.

Factory Specification sheets for the engine, including photographs and dimensions, are provided in Section 2.3.2.

Engine Stack

The engine stack is located immediately adjacent to the engine pad. It has a diameter of 1.5 feet and a height of 10 meters, and is an un-guyed design with lightning protection. Because of the relatively small stack diameter, modest exhaust exit speed, and non-toxic nature of the exhaust, no anti-vortex fluting is planned for the stack orifice.

Electric Generator, Generator Control Center / Step-Up Transformer / In-Property Power Line

The Caterpillar 3516 landfill gas engine is mechanically coupled to a 3-phase, 60 cycle, 880 VAC, generator with integral Generator Control Center on the engine pad (**Figure 3-2**). Electric power from the generator is stepped up to approximately 6000 VAC using a 2000 KVA transformer located within an adjacent fenced compound and then connected to an overhead electric power 6000 VAC power line that crosses the closed portion of the landfill eastward, and then turns north along the access road at the base of the draw and then continues northward to the north landfill boundary to enter the commercial grid substation. The locations of the in-property 6000 VAC transfer line and commercial grid substation are shown on **Figure 3-1**.

Generator Control Center / Step-Up Transformer / In-Property Power Line Switch Yard

Bannock County will certify their *Small Generator Equipment Package* and interconnection system with the Idaho Public Utility Commission after testing and public labeling by an OSHA-listed *Nationally Recognized Testing Laboratory*. Connection of Bannock County's LFG-derived electric power with the commercial power grid will be governed by Section 3 of the Idaho Public Utility Commission's *Small Generator Interconnection Procedures* (Appendix E to the Small Generator Interconnection Final Rule).

Idaho Power Company maintains an active 46 KV, 3-phase power line that runs east to west along the south side of the Portneuf River, immediately north of the landfill. This power line has adequate capacity for the approximately 2 MW of power that the landfill will provide. A final step-up transformer, to be built within a commercial grid substation located near the north landfill boundary (as shown on **Figure 3-1**) will form the interface between the in-property 6000 VAC transfer line and the 46 KV Idaho Power Company line.

3.4 Fuel and Burners Used

Fuel

The landfill gas flare and engine will be fueled by landfill gas derived from a network of extraction wells at the landfill. The gas is nominally 50% methane, and almost 50% carbon dioxide, with a small amount (< 3%) of hydrocarbons, and an expected absolute humidity of 6.9 g of water per m3 landfill gas, after water removal upstream of the flare / engine.

Fuel value of the landfill gas is approximately 545 Btu/scf.

Fuel content for the maximum LFG production year (2031) is provided in the table below.

Gas / Pollutant	Emission Rate				
	(Mg/year)	(m ³ /year)	(av ft ³ /min)	(ft ³ /year)	(short tons/year)
Total landfill gas	2.151E+03	1.722E+06	1.157E+02	6.082E+07	2.366E+03
Methane	5.745E+02	8.611E+05	5.786E+01	3.041E+07	6.320E+02
Carbon dioxide	1.576E+03	8.611E+05	5.786E+01	3.041E+07	1.734E+03
NMOC	9.075E-01	2.532E+02	1.701E-02	8.941E+03	9.983E-01
1,1,1-Trichloroethane (methyl chloroform) - HAP	4.587E-03	8.267E-01	5.555E-05	2.919E+01	5.046E-03
1,1,2,2-Tetrachloroethane - HAP/VOC	1.323E-02	1.895E+00	1.273E-04	6.690E+01	1.455E-02
1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	1.702E-02	4.133E+00	2.777E-04	1.460E+02	1.872E-02
1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	1.389E-03	3.445E-01	2.314E-05	1.216E+01	1.528E-03
1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	2.906E-03	7.061E-01	4.745E-05	2.494E+01	3.197E-03
1,2-Dichloropropane (propylene dichloride) - HAP/VOC	1.457E-03	3.100E-01	2.083E-05	1.095E+01	1.603E-03
2-Propanol (isopropyl alcohol) - VOC	2.153E-01	8.611E+01	5.786E-03	3.041E+03	2.368E-01
Acetone	2.912E-02	1.206E+01	8.100E-04	4.258E+02	3.204E-02
Acrylonitrile - HAP/VOC	2.395E-02	1.085E+01	7.290E-04	3.832E+02	2.634E-02
Benzene - No or Unknown Co-disposal - HAP/VOC	1.063E-02	3.272E+00	2.199E-04	1.156E+02	1.169E-02
Benzene - Co-disposal - HAP/VOC	6.155E-02	1.895E+01	1.273E-03	6.690E+02	6.770E-02
Bromodichloromethane - VOC	3.638E-02	5.339E+00	3.587E-04	1.886E+02	4.002E-02
Butane - VOC	2.082E-02	8.611E+00	5.786E-04	3.041E+02	2.290E-02
Carbon disulfide - HAP/VOC	3.163E-03	9.989E-01	6.712E-05	3.528E+01	3.479E-03
Carbon monoxide	2.809E-01	2.411E+02	1.620E-02	8.515E+03	3.090E-01
Carbon tetrachloride - HAP/VOC	4.408E-05	6.889E-03	4.629E-07	2.433E-01	4.849E-05
Carbonyl sulfide - HAP/VOC	2.109E-03	8.439E-01	5.670E-05	2.980E+01	2.319E-03
Chlorobenzene - HAP/VOC	2.016E-03	4.306E-01	2.893E-05	1.521E+01	2.217E-03
Chlorodifluoromethane	8.053E-03	2.239E+00	1.504E-04	7.907E+01	8.858E-03
Chloroethane (ethyl chloride) - HAP/VOC	6.008E-03	2.239E+00	1.504E-04	7.907E+01	6.609E-03
Chloroform - HAP/VOC	2.566E-04	5.167E-02	3.472E-06	1.825E+00	2.822E-04
Chloromethane - VOC	4.340E-03	2.067E+00	1.389E-04	7.299E+01	4.774E-03
Dichlorobenzene - (HAP for para isomer/VOC)	2.211E-03	3.617E-01	2.430E-05	1.277E+01	2.433E-03
Dichlorodifluoromethane	1.386E-01	2.756E+01	1.852E-03	9.732E+02	1.524E-01
Dichlorofluoromethane - VOC	1.917E-02	4.478E+00	3.009E-04	1.581E+02	2.109E-02
Dichloromethane (methylene chloride) - HAP	8.519E-02	2.411E+01	1.620E-03	8.515E+02	9.370E-02
Dimethyl sulfide (methyl sulfide) - VOC	3.472E-02	1.343E+01	9.026E-04	4.744E+02	3.819E-02
Ethane	1.917E+00	1.533E+03	1.030E-01	5.413E+04	2.109E+00
Ethanol - VOC	8.913E-02	4.650E+01	3.124E-03	1.642E+03	9.804E-02
Ethyl mercaptan (ethanethiol) - VOC	1.024E-02	3.961E+00	2.662E-04	1.399E+02	1.126E-02
Ethylbenzene - HAP/VOC	3.498E-02	7.923E+00	5.323E-04	2.798E+02	3.848E-02
Ethylene dibromide - HAP/VOC	1.346E-05	1.722E-03	1.157E-07	6.082E-02	1.480E-05
Fluorotrichloromethane - VOC	7.479E-03	1.309E+00	8.795E-05	4.623E+01	8.227E-03
Hexane - HAP/VOC	4.075E-02	1.137E+01	7.638E-04	4.014E+02	4.482E-02
Hydrogen sulfide	8.789E-02	6.200E+01	4.166E-03	2.190E+03	9.668E-02
Mercury (total) - HAP	4.167E-06	4.995E-04	3.356E-08	1.764E-02	4.584E-06
Methyl ethyl ketone - HAP/VOC	3.668E-02	1.223E+01	8.216E-04	4.318E+02	4.034E-02
Methyl isobutyl ketone - HAP/VOC	1.363E-02	3.272E+00	2.199E-04	1.156E+02	1.500E-02
Methyl mercaptan - VOC	8.616E-03	4.306E+00	2.893E-04	1.521E+02	9.477E-03
Pentane - VOC	1.706E-02	5.684E+00	3.819E-04	2.007E+02	1.876E-02
Perchloroethylene (tetrachloroethylene) - HAP	4.395E-02	6.372E+00	4.282E-04	2.250E+02	4.835E-02
Propane - VOC	3.474E-02	1.895E+01	1.273E-03	6.690E+02	3.822E-02
t-1,2-Dichloroethene - VOC	1.944E-02	4.822E+00	3.240E-04	1.703E+02	2.139E-02
Toluene - No or Unknown Co-disposal - HAP/VOC	2.574E-01	6.717E+01	4.513E-03	2.372E+03	2.831E-01
Toluene - Co-disposal - HAP/VOC	1.122E+00	2.928E+02	1.967E-02	1.034E+04	1.234E+00
Trichloroethylene (trichloroethene) - HAP/VOC	2.636E-02	4.822E+00	3.240E-04	1.703E+02	2.899E-02
Vinyl chloride - HAP/VOC	3.268E-02	1.257E+01	8.448E-04	4.440E+02	3.595E-02
Xylenes - HAP/VOC	9.126E-02	2.067E+01	1.389E-03	7.299E+02	1.004E-01

3.5 Operating Schedule

The landfill gas extraction system is intended to operate in steady-state mode, on a 24-hour-per-day, 365 day-per-year basis.

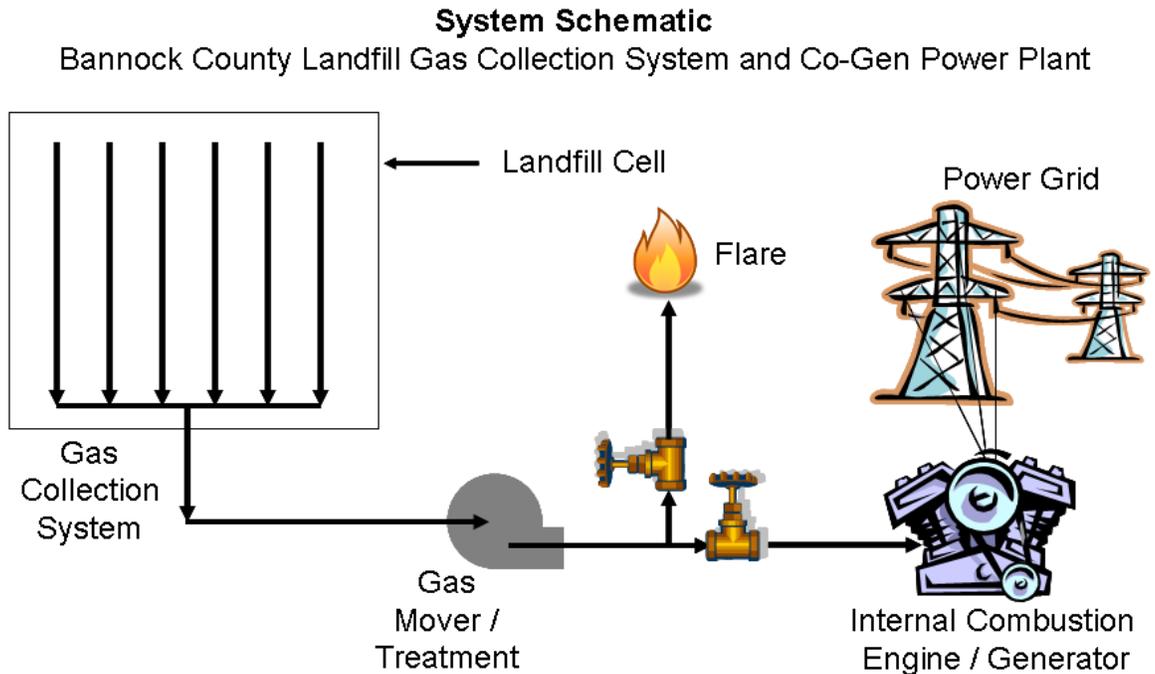
The Applicant's development plans call for initial installation of the LFG well field and gas collection system, including the gas-moving blower and flare. This system will be started and used to evaluate quantity and quality of the LFG production, prior to ordering and installing the engine. The engine installation will follow characterization and validation of the LFG production.

During approximately the first 15 years of operation, the flare will operate only as a backup LFG treatment appliance when the engine is down for maintenance or upset. After that time (and assuming that no additional engine capacity is brought on-line), it is possible that the landfill will produce more LFG than the engine can utilize. In that case, the flare will provide capacity for that excess production.

3.6 Process Description

Bannock County proposes to begin installing a LFG collection system at its Fort Hall Mine Road Landfill. Collected LFG will be piped to an open flare and to a lean-burn Caterpillar 3516 engine driving an electrical generator that is connected to the commercial power grid.

3.7 Process Flow Diagram



3.8 Process Rate

Year	Cell A CH4 (M3/yr) ²	Future Cell 4 CH4 (M3/yr) ³	Cell A + Future CH4 (M3/yr)
1990	0	0	0
1991	0	0	0
1992	0	0	0
1993	0	0	0
1994	0	0	0
1995	81,306	0	81,306
1996	171,762	0	171,762
1997	279,426	0	279,426
1998	411,045	0	411,045
1999	512,075	0	512,075
2000	615,508	0	615,508
2001	713,423	0	713,423
2002	807,966	0	807,966
2003	902,727	0	902,727
2004	988,963	0	988,963
2005	1,090,989	0	1,090,989
2006	1,195,129	0	1,195,129
2007	1,297,603	0	1,297,603
2008	1,399,206	0	1,399,206
2009	1,494,312	0	1,494,312
2010	1,595,136	0	1,595,136
2011	1,629,485	65,937	1,695,422
2012	1,663,891	131,304	1,795,195
2013	1,698,362	196,119	1,894,481
2104	1,722,943	270,365	1,993,308
2015	1,688,826	402,875	2,091,701
2016	1,655,385	534,300	2,189,685
2017	1,622,606	664,680	2,287,286
2018	1,590,477	794,052	2,384,529
2019	1,558,983	922,456	2,481,439
2020	1,528,113	1,049,925	2,578,038
2021	1,497,854	1,176,500	2,674,354
2022	1,468,195	1,302,213	2,770,408
2023	1,439,123	1,427,101	2,866,224
2024	1,410,626	1,551,200	2,961,826
2025	1,382,694	1,674,544	3,057,238
2026	1,355,315	1,797,166	3,152,481
2027	1,328,478	1,919,100	3,247,578
2028	1,302,172	2,040,380	3,342,552
2029	1,276,387	2,161,037	3,437,424
2030	1,251,113	2,281,104	3,532,217
2031	1,226,339	2,400,613	3,626,952
2032	1,202,056	2,353,077	3,555,134
2033	1,178,254	2,306,483	3,484,737
2034	1,154,923	2,260,812	3,415,735
2035	1,132,054	2,216,045	3,348,099
2036	1,109,638	2,172,164	3,281,802
2037	1,087,666	2,129,152	3,216,818
2038	1,066,128	2,086,992	3,153,121
2039	1,045,018	2,045,667	3,090,685
2040	1,024,325	2,005,160	3,029,485
2041	1,004,042	1,965,455	2,969,497
2042	984,160	1,926,537	2,910,697
2043	964,673	1,888,389	2,853,062
2044	945,571	1,850,996	2,796,567
2045	926,847	1,814,344	2,741,191
2046	908,495	1,778,418	2,686,912
2047	890,505	1,743,203	2,633,708
2048	872,872	1,708,685	2,581,557
2049	855,588	1,674,851	2,530,439
2050	838,646	1,641,686	2,480,333
¹ Emissions based on NMOC concentration (as Hexane) of 147 ppm in 2009.			
² Projected emissions based on NMOC concentration (as Hexane) of 516 ppm.			
³ Projected NMOC emissions based on concentration (as Hexane) of 600 ppm for future Cell 4.			

3.9 MSDS

No Material Data Safety Sheets are applicable to, e.g., the landfill gas which is the primary process stream in this project.

An MSDS is provided for liquified natural gas that serves as the fuel for the flare pilot light. No auxiliary fuel pertains to the Caterpillar 3516 engine.

MATERIAL SAFETY DATA SHEET FOR ODORIZED PROPANE

1. Chemical Product and Company Identification

Product Name: Odorized Commercial Propane
Chemical Name: Propane
Chemical Family: Paraffinic Hydrocarbon
Formula: C₃H₈
Synonyms: Dimethylmethane, LP-Gas, Liquefied Petroleum Gas (LPG), Propane, Propyl Hydride

Name & Address:
AmeriGas Propane, L.P.
P. O. Box 965
Valley Forge, PA. 19482

Transportation Emergency Number:
CHEMTREC 1-800-424-9300

For General Information, Call:
1-610-337-1000, Safety Dept.

2. Composition / Information on Ingredients

INGREDIENT NAME /CAS NUMBER	PERCENTAGE	OSHA PEL	ACGIH TLV
Propane / 74-98-6	87.5 - 100	1,000 ppm	Simple asphyxiant
Ethane / 74-84-0	0 - 7.0		Simple asphyxiant
Propylene / 115-07-1	0 - 5.0		Simple asphyxiant
Butanes / 106-97-8	0 - 2.5		Simple asphyxiant
Ethyl Mercaptan / 75-08-1	0 - 50 ppm	0.5 ppm	0.5 ppm

WARNING: The intensity of the chemical odorant (e.g., ethyl mercaptan) may "fade" or diminish due to chemical oxidation, adsorption or absorption. Individuals with nasal perception problems may not be able to smell the odorant. Leaking propane from underground gas lines may lose its odor as it passes through certain soils. No odorant is effective 100% of the time. Therefore, circumstances can exist when individuals are in the presence of leaking propane and not be alerted by the smell. Contact AmeriGas for more information about odor, propane gas detectors and other safety considerations associated with the handling, storage and use of propane.

3. Hazards Identification

EMERGENCY OVERVIEW

DANGER! Flammable liquefied gas under pressure. Keep away from heat, sparks, flame, and all other ignition sources. Vapor replaces oxygen available for breathing and may cause suffocation in confined spaces. Use only with adequate ventilation. Reliance upon detection of odor may not provide adequate warning of potentially hazardous concentrations. Vapor is heavier than air; may collect at low levels. Liquid can cause freeze burn similar to frostbite. Do not get liquid in eyes, on skin, or on clothing. Avoid breathing vapor. Keep service valve closed when not in use.

FIRE HAZARD
(Red)

HEALTH HAZARD
(Blue)



REACTIVITY
(Yellow)

SPECIAL HAZARDS*

Minimal 0 Moderate 2 Severe 4
Slight 1 Serious 3 *(Ref. NFPA 704)

POTENTIAL HEALTH EFFECTS INFORMATION

ROUTES OF EXPOSURE:

Inhalation: Asphyxiation. Before suffocation could occur, the lower flammability limit of propane in air would be exceeded, possibly causing both an oxygen-deficient and explosive atmosphere. Exposure to concentrations >10% may cause dizziness. Exposure to atmospheres containing 19% or less oxygen will bring about unconsciousness without warning. Lack of sufficient oxygen may cause serious injury or death.
Eye Contact: Contact with liquid can cause freezing of tissue.
Skin Contact: Contact with liquid can cause frostbite.
Skin Absorption: None.
Ingestion: Ingestion is not expected to occur in normal use. However, liquid can cause freeze burn similar to frostbite.

CHRONIC EFFECTS: None.

CARCINOGENICITY: Propane is not listed by NTP, OSHA or IARC.

4. First Aid Measures

INHALATION: Individuals suffering from lack of oxygen should be removed to fresh air. If victim is not breathing, administer artificial respiration. If breathing is difficult, administer oxygen. Obtain immediate medical assistance.

EYE CONTACT: Gently flush eyes with lukewarm water. Obtain immediate medical assistance.

SKIN CONTACT: Remove saturated clothes, shoes and jewelry. Immerse affected area in lukewarm water not exceeding 105° F. Keep immersed. Obtain immediate medical assistance.

INGESTION: If swallowed, obtain immediate medical assistance.

5. Fire-Fighting Measures

FLASH POINT: -156°F (-104°C)

AUTOIGNITION: 842°F (432°C)

IGNITION TEMPERATURE IN AIR: 920°F to 1120°F (493°C to 549°C)

FLAMMABLE LIMITS IN AIR (% by volume): Lower: 2.15% Upper: 9.6%

EXTINGUISHING MEDIA: Dry chemical, CO₂, water spray or fog for surrounding area. Do not attempt to extinguish fire until propane source is isolated.

SPECIAL FIRE-FIGHTING INSTRUCTIONS: Evacuate all unnecessary personnel from the area. Allow only properly trained and protected emergency response personnel in area. A NIOSH approved self-contained breathing apparatus may be required. If gas flow cannot be shut off, do not attempt to extinguish fire. Allow fire to burn itself out. Use high volume water supply to cool exposed pressure containers and nearby equipment. Approach a flame-enveloped container from the sides, never from the ends. Use extreme caution when applying water to a container that has been exposed to heat or flame for more than a short time. For uncontrollable fires and/or when flame is impinging on container, withdraw all personnel and evacuate vicinity immediately.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Propane is heavier than air and can collect in low areas. Flash back along a vapor trail is possible. Pressure in a container can build up due to heat; and, container may rupture suddenly and violently without warning if pressure relief devices fail to function properly. If flames are against the container, withdraw immediately on hearing a rising sound, if venting increases in volume or intensity or if there is discoloration of the container due to fire. Propane released from a properly functioning relief valve on an overheated container can also become ignited.

HAZARDOUS COMBUSTION PRODUCTS: None.

6. Accidental Release Measures

IF MATERIAL IS RELEASED OR SPILLED: Evacuate the immediate area. Eliminate any possible sources of ignition and provide maximum ventilation. Shut off source of propane, if possible. If leaking from container or valve, contact your supplier immediately.

7. Handling and Storage

HANDLING PRECAUTIONS: Propane vapor is heavier than air and can collect in low areas that are without sufficient ventilation. Conduct system checks for leaks with a leak detector or solution, never with flame. Make certain the container service valve is shut off prior to connecting or is connecting. If container valve does not operate properly, discontinue use and contact your gas supplier. Never insert an object (e.g., wrench, screwdriver, pry bar, etc.) into pressure relief valve or cylinder valve cap openings. Do not drop or abuse cylinders. Never strike an arc on a gas container or make a container part of an electrical circuit. See Section 16, "OTHER INFORMATION", for additional precautions.

STORAGE PRECAUTIONS: Store in a safe, authorized location (outside, detached storage is preferred) with adequate ventilation. Specific requirements are listed in NFPA 58, LP-GAS CODE. Isolate from heat and ignition sources. Containers should never be allowed to reach temperature exceeding 125°F (52°C). Isolate from combustible materials. Provide separate storage locations for other compressed and flammable gases. Propane containers should be separated from oxygen cylinders or other oxidizers by a minimum distance of 20 feet, or by a barrier of non-combustible material at least 5 feet high having a fire rating of at least 1/2 hour. Full and empty cylinders should be segregated. Keep cylinders in an upright position at all times so that each pressure relief valve communicates with the vapor space. Keep container valve closed and plugged or capped when not in use. Install protective caps when cylinders are not connected for use. Empty containers retain some residue and should be treated as if they were full.

8. Exposure Control / Personal Protection

ENGINEERING CONTROLS

Ventilation: Provide ventilation adequate to ensure propane does not reach a flammable mixture.

RESPIRATORY PROTECTION

General Use: None.

Emergency Use: If concentrations are high enough to warrant supplied-air or NIOSH self-contained breathing apparatus, then the atmosphere may be flammable (See Section 5).

Appropriate precautions must be taken regarding flammability.

PROTECTIVE CLOTHING: Avoid skin contact with liquid propane because of possibility of freeze burn. Wear gloves and protective clothing that are impervious to the product for the duration of the anticipated exposure.

EYE PROTECTION: Safety glasses, goggles or face shields are recommended when handling cylinders.

OTHER PROTECTIVE EQUIPMENT: Safety shoes are recommended when handling cylinders.

9. Physical and Chemical Properties

BOILING POINT: @ 14.7 psia = -44° F (@1.00 atm. pressure = -42°C)

SPECIFIC GRAVITY OF VAPOR (Air = 1) at 60° F (15.56°C): 1.50

SPECIFIC GRAVITY OF LIQUID (Water = 1) at 60° F: 0.504

VAPOR PRESSURE: @ 70° F (20°C) = 127 psig; @ 105° F (45°C) = 210 psig; @ 130° F (55°C) = 287 psig

EXPANSION RATIO (From liquid to gas @ 14.7 psia): 1 to 270

SOLUBILITY IN WATER: Slight, 0.1 to 1.0%

APPEARANCE AND ODOR: A colorless and tasteless gas at normal temperature and pressure. An odorant (ethyl mercaptan) is added to provide a strong unpleasant odor. Should a propane-air mixture reach the lower limits of flammability, the ethyl mercaptan concentration will be approximately 0.5 ppm in air.

ODORANT WARNING: Odorant is added to aid in the detection of leaks. One common odorant is ethyl mercaptan, CAS No. 75-08-1. Odorant has a foul smell. The ability of people to detect odors varies widely. Also, the odor level can be reduced by certain chemical reactions with material in the propane system or when fugitive propane gas from underground leaks passes through certain soils. No odorant will be 100% effective in all circumstances. If the presence of the odorant is not obvious, notify your gas supplier immediately.

10. Stability and Reactivity

STABILITY: Stable. Conditions to Avoid: Keep away from high heat, strong oxidizing agents and sources of ignition.

REACTIVITY: Hazardous Decomposition Products: Under fire conditions, fumes, smoke, carbon monoxide, aldehydes and other decomposition products. In most applications where there is inadequate venting to the outside air, incomplete combustion will produce carbon monoxide (a toxic gas) and potentially develop concentrations that can create a serious health hazard.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Propane is non-toxic and is a simple asphyxiant. It has slight anesthetic properties. Higher concentrations may cause dizziness.

IRRITANCY OF MATERIAL: None.

REPRODUCTIVE EFFECTS: None

TERATOGENICITY: None

SENSITIZATION TO MATERIAL: None

MUTAGENICITY: None

SYNERGISTIC MATERIALS: None

12. Ecological Information

No adverse ecological effects are expected. Propane does not contain any Class I or Class II ozone-depleting chemicals (40 CFR Part 82). Propane is not listed as a marine pollutant by DOT (49 CFR Part 171).

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused product in the container; return it to your supplier for safe disposal. Residual product within a process system may be burned at a controlled rate if a suitable burning unit is available on site, and is done in accordance with federal, state and local regulations.

14. Transport Information

DOT SHIPPING NAME: Liquefied Petroleum Gas	SHIPPING LABEL (S): Flammable Gas
IDENTIFICATION NUMBER: UN 1075	PLACARD (WHEN REQUIRED): Flammable Gas
IMO SHIPPING NAME: Propane	SPECIAL SHIPPING INFORMATION:
IMO IDENTIFICATION NUMBER: UN 1978	Container must be transported in a well-ventilated vehicle, secured, and in a position such that the pressure relief device is in communication with the vapor space.
HAZARD CLASS: 2.1 (Flammable Gas)	
PRODUCT RQ: None with the vapor space	

15. Regulatory Information

The following information concerns U.S. Federal regulatory requirements potentially applicable to this product. Not all such requirements are identified. Users of this product are responsible for their own regulatory compliance on a federal, state [provincial] and local level.

U.S. FEDERAL REGULATIONS

Environmental Protection Agency (EPA)

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) - 40 CFR Parts 117 and 302

Reportable Quantity (RQ): None

Superfund Amendment and Reauthorization Act (SARA)

- Sections 302/304: Relates to emergency planning on threshold planning quantities (TPQ) and release reporting based on reportable quantities (RQ) of EPA's extremely hazardous substances (40 CFR Part 355).

Extremely Hazardous Substances: None **Threshold Planning Quantity (TPQ):**

None

- Sections 311/312: Relates to submission of material safety data sheets (MSDSs) and chemical inventory reporting with identification of EPA-defined hazard classes (40 CFR Part 370). The hazard classes for this product are:

IMMEDIATE: No **PRESSURE:** Yes **DELAYED:** No **REACTIVITY:** No **FLAMMABLE:**

Yes

- Section 313: Relates to submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372. Propane does not require reporting under Section 313.

Toxic Substance Control Act (TSCA)

Propane is listed on the TSCA inventory.

Occupational Safety and Health Administration (OSHA)

The following 29 CFR Parts may apply to propane:

29 CFR 1910.110: *Storage and Handling of Liquefied Petroleum Gases*

29 CFR 1910.119: *Process Safety Management of Highly Hazardous Chemicals*

29 CFR 1910.1200: *Hazardous Communications*

Food and Drug Administration (FDA)

21 CFR 184.1655: Generally recognized as safe (GRAS) as a direct human food ingredient when used as a propellant, aerating agent and gas.

16. Other Information

SPECIAL PRECAUTIONS: Use piping and equipment adequately designed to withstand pressure to be encountered. NFPA 58, LP-GAS CODE and OSHA 29 CFR 1910.10 require that all persons employed in handling LP-gases be trained in proper handling and operating procedures, which the employer shall document. Contact your propane supplier to arrange for the required training. Allow only trained and qualified persons to install and service propane containers and systems.

ISSUE INFORMATION

Issue Date: December 2002

Supersedes Date: April 2002

Issued By: Director of Safety

Phone Number: 1-610-337-7000

This material safety data sheet and the information it contains is offered to you in good faith as accurate. This Supplier does not manufacture this product, but is a supplier of the product that is independently produced by others. Much of the information contained in this data sheet was received from sources outside our Company. To the best of our knowledge this information is accurate, but this Supplier does not guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely, comply with all applicable laws and regulations and to assume the risks involved in the use of this product.

NO WARRANTY OR MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSES, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OF COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.

3.10 Other Data needed to Process the Application

The Permittee is not aware of any other data that need to be included in this Tier 1 Application. If additional data are required, we anticipate that DEQ will advise us during the pre-permit-submittal meeting or during DEQ's completeness review.

4.0 Applicable Requirements

4.1 Federal Non-Air Requirements

National Environmental Policy Act of 1969 (NEPA)

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.1.1	43 USC §4321 <i>et seq.</i> <i>Environmental impact evaluation required for all "significant" projects federally funded.</i>	Flare: Not Applicable. Not a federally-funded project.	n/a	Inspection of Regulation	n/a
4.1.2	43 USC §4321 <i>et seq.</i> <i>Environmental impact evaluation required for all "significant" projects federally funded.</i>	Engine Exhaust : Not Applicable. Not a federally-funded project.	n/a	Inspection of Regulation	n/a

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and Superfund Amendments and Reauthorization Act (SARA) of 1986

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.1.3	42 USC §9601 <i>et seq.</i> <i>Remediation of abandoned hazardous waste sites. CERCLA listing occurs after graded site risk studies.</i>	Flare: Not Applicable. Landfill is not abandoned, nor a CERCLA-listed site.	n/a	Inspection of Regulation	n/a
4.1.4	42 USC §9601 <i>et seq.</i> <i>Remediation of abandoned hazardous waste sites. CERCLA listing occurs after graded site risk studies.</i>	Engine Exhaust : Not Applicable Landfill is not abandoned, nor a CERCLA-listed site.	n/a	Inspection of Regulation	n/a

Emergency Planning and Community Right-to-Know Act (SARA Title III)

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.1.5	42 USC §9601 <i>et seq.</i> EPCRA is SARA Title III. Emergency Planning for hazardous chemical sites.	Flare: Not Applicable. Landfill does not accept RCRA/CERCLA hazardous wastes.	n/a	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a
4.1.6	42 USC §9601 <i>et seq.</i> EPCRA is SARA Title III. Emergency Planning for hazardous chemical sites.	Engine Exhaust : Not Applicable. Landfill does not accept RCRA/CERCLA hazardous wastes.	n/a	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a

Federal Insecticide, Fungicide, and Rodenticide Act of 1996 (FIFRA)

Ref	Citation and Requirement	Source Discussed /Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.1.7	7 USC §136 <i>et seq.</i> FIFRA provides for federal regulation of pesticide distribution, sale, and use.	Flare: Not Applicable. Landfill does not accept pesticides for disposal.	n/a	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a
4.1.8	7 USC §136 <i>et seq.</i> FIFRA provides for federal regulation of pesticide distribution, sale, and use.	Engine Exhaust : Not Applicable. Landfill does not accept pesticides for disposal.	n/a	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a

Toxic Substances Control Act of 1976 (TSCA)

Ref	Citation and Requirement	Source Discussed /Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.1.9	15 USC §2601 <i>et seq.</i> TSCA addresses, et al, the use and disposal of specific chemicals including polychlorinated biphenyls (PCBs)[40 CFR 761], asbestos [40 CFR 763], radon and lead-based paint.	Flare: Not Applicable. Landfill does not accept PCB-containing materials. Landfill does not accept or generate	n/a	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a

		radon. Landfill maintains compliant, segregated disposal of asbestos and lead-based paint.			
4.1.10	15 USC §2601 <i>et seq.</i> TSCA addresses, et al, the use and disposal of specific chemicals including polychlorinated biphenyls (PCBs)[40 CFR 761], asbestos [40 CFR 763], radon and lead-based paint.	Engine Exhaust : Not Applicable Landfill does not accept PCB-containing materials. Landfill does not accept or generate radon. Landfill maintains compliant, segregated disposal of asbestos and lead-based paint.	n/a	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a

4.2 State of Idaho Non-Air Requirements

Idaho DEQ has delegated authority from EPA to administer the Clean Water Act and RCRA.

Clean Water Act of 1972 (CWA)

Ref	Citation and Requirement	Source Discussed /Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.2.1	33 USC §1251 <i>et seq.</i> Regulates discharges of pollutants into surface waters. Industrial facilities must obtain NPDES permits if their discharges go directly to surface waters.	Flare: Not Applicable. Landfill does not discharge to surface waters.	n/a	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.2.2	33 USC §1251 <i>et seq.</i> Regulates discharges of pollutants into surface waters. Industrial facilities must obtain NPDES permits if their discharges go directly to surface waters.	<p>Engine Exhaust : Not Applicable</p> <p>Landfill does not discharge to surface waters.</p>	n/a	<p>Inspection of Regulation</p> <p>Inspection of Landfill Ops Procedures</p>	n/a

Resource Conservation and Recovery Act of 1976 (RCRA) and Hazardous and Solid Waste Amendments of 1984 (HSWA)

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.2.3	42 USC §6901 <i>et seq.</i> RCRA [Subtitle "C" 40 CFR 258] addresses generation, transport, treatment, storage, and disposal of hazardous waste. RCRA addresses underground storage tanks, waste minimization and phasing out hazardous wastes from landfills.	<p>Flare: Not Applicable.</p> <p>Landfill does not accept RCRA wastes.</p> <p>Landfill does not contain un-remediated haz wastes from earlier legal disposal or leaking USTs.</p>	n/a	<p>Inspection of Regulation</p> <p>Inspection of Landfill Ops Procedures</p>	n/a
4.2.4	42 USC §6901 <i>et seq.</i> RCRA [Subtitle "C" 40 CFR 258] addresses generation, transport, treatment, storage, and disposal of hazardous waste. RCRA addresses underground storage tanks, waste minimization and phasing out hazardous wastes from landfills.	<p>Engine Exhaust : Not Applicable</p> <p>Landfill does not accept RCRA wastes.</p> <p>Landfill does not contain un-remediated haz wastes from earlier legal disposal or leaking USTs.</p>	n/a	<p>Inspection of Regulation</p> <p>Inspection of Landfill Ops Procedures</p>	n/a

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.2.5	42 USC §6901 <i>et seq.</i> RCRA [Subtitle "D" 40 CFR 257] also sets forth a framework for the management of non-hazardous Municipal Solid Wastes	Flare: Not Applicable. Landfill is designed, constructed, and operated to conform with RCRA Subtitle "D" regs for MSW landfills.	Subtitle "D" Compliant.	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a
4.2.6	42 USC §6901 <i>et seq.</i> RCRA [Subtitle "D" 40 CFR 257] also sets forth a framework for the management of non-hazardous Municipal Solid Wastes	Engine Exhaust : Not Applicable Landfill is designed, constructed, and operated to conform with RCRA Subtitle "D" regs for MSW landfills.	Subtitle "D" Compliant.	Inspection of Regulation Inspection of Landfill Ops Procedures	n/a

4.3 Bannock County Non-Air Requirements

Bannock County does not have non-air environmental requirements that are applicable to this analysis.

4.4 Federal Air Quality Requirements

Clean Air Act: Greenhouse Gas Reporting Final Rule 2009

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.4.1	40 CFR 86, 87, 89, and 98 <i>et seq.</i> GHG Reporting Final Rule (74 FR 56260-56219) Requires: <ul style="list-style-type: none"> Report CH4 generation and CH4 emissions from landfill by Cell. 	Landfill Area Source: Applicable Flare: Applicable after installation. Applies to MSW landfills [a named source] with GHG	Compliance Pending Report for LFG non-collection (before installation of LFG collection system) is pending --_due 3-31-11.	<ul style="list-style-type: none"> Inspection of Regulation Simulation modeling of landfill CH4 and NMOC generation. Monitoring and recording of : -- Gate weights, -- landfill area utilization, 	Report for LFG non-collection system due 3-31-11. Report for LFG collection system due 3-31-11. 3-yr record retention.

	<ul style="list-style-type: none"> Report Annual CH4 oxidation (non-collected area) and Annual CO2 destruction (collected area) Report emissions from fuel combustion devices. Owner certifies records and submittals. 	<p>emissions > 25,000 Mg CO2 equivalent. / yr.</p> <p>This threshold was reached in the "old Cell" after 1991(1.3 million short tons waste in place), 1190 Mg CH4 / yr.</p>	<p>Compliance Pending</p> <p>Report for LFG collection (after installation of LFG collection system) is pending -- due March 31 in year after collection system installation.</p>	<p>-- CH4 concentration. -- Collection system design specs, -- Ops hours for LFG collection, CH4 generation, moisture content, hourly temps, pressure. -- Hrs of LFG collection -- Hrs of ops for flare and Engine.</p>	
4.4.2	<p>40 CFR 86, 87, 89, and 98 <i>et seq.</i> GHG Reporting Final Rule (74 FR 56260-56219)</p> <p>Requires:</p> <ul style="list-style-type: none"> Report CH4 generation and CH4 emissions from landfill by Cell. Report Annual CH4 oxidation (non-collected area) and Annual CO2 destruction (collected area) Report emissions from fuel combustion devices. Owner-certified records and submittals. 	<p>Landfill Area Source: Applicable (Note: Do not duplicate. Covered with flare, above)</p> <p>Engine Exhaust : Applicable after installation.</p> <p>Applies to LFG control systems after installation.</p>	<p>Compliance Pending</p> <p>Report for LFG collection (after installation of LFG collection system) is due March 31 in year after collection system installation.</p>	<p>Inspection of Regulation</p> <p>Simulation modeling of landfill CH4 and NMOC generation.</p> <p>Monitoring and recording of : -- Gate weights, -- landfill area utilization, -- CH4 concentration. -- Collection system design specs (when applicable), -- Ops hours for LFG collection, CH4 generation, moisture content, hourly temps, pressure. -- Hrs of LFG collection -- Hrs of ops for flare and Engine.</p>	<p>Report for LFG non-collection system due 3-31-11.</p> <p>Report for LFG collection system due 3-31-11.</p> <p>3-yr record retention.</p>

4.5 State of Idaho Air Quality Requirements

Idaho DEQ has delegated authority from EPA to administer all provisions of the Clean Air Act except GHG.

Clean Air Act of 1970 (CAA) New Source Review for Attainment Areas, National Ambient Air Quality Standards (NAAQS)

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.1	<p>IDAPA 58.01.01.201 PERMIT TO CONSTRUCT REQUIRED. The PTC process incorporates New Source Review for Attainment Areas and review of projected compliance with emission standards and NAAQS.</p> <p>No owner or operator may commence construction or modification of any stationary source, facility, major facility, or major modification without first obtaining a permit to construct ...</p>	<p>Flare: Applicable.</p> <p>Engine Exhaust: Applicable</p>	<p>Compliant.</p> <p>PTC Number P2010.0146 for landfill, flare and engine exhaust granted 6 April 2010 24 month term.</p>	<p>PTC granted and conditions kept by Permittee.</p>	<p>PTC is valid for 24 months after 6 April 2010. Construction must begin within that time, and not cease for more than 12 months during construction.</p>

Clean Air Act of 1970 (CAA) Prevention of Significant Deterioration Review

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.2	<p>IDAPA 58.01.01.205 <i>et seq.</i> PERMIT REQS FOR NEW MAJOR SOURCES IN ATTAINMENT OR UNCLASSIFIABLE AREAS. The Prevention of Significant Deterioration (PSD) program is a construction permitting program for new major facilities and major modifications to existing major facilities located in areas in attainment or in areas that are</p>	<p>Flare: Not Applicable.</p> <p>Engine Exhaust: Not Applicable</p> <p>Neither the flare nor the engine exhaust are major sources.</p> <p>The landfill is</p>	<p>n/a</p>	<p>Emissions inventory and NAAQS attainment status for landfill site, documented in PTC application.</p>	<p>n/a.</p>

	<p>unclassifiable for any criteria air pollutant.</p> <p>The PTC process incorporates PSD applicability review for proposed sources.</p>	<p>not a major source.</p>			
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Clean Air Act of 1970 (CAA) National Emissions Standards for Hazardous Air Pollutants (NESHAPs) and Toxic Air Pollutant (TAP) Review

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.3	<p>IDAPA 58.01.01.2053.03 <i>et seq.</i></p> <p>Toxic Air Pollutants (TAPS). The emissions of toxic air pollutants from the source [will] not injure or unreasonably affect human or animal life or vegetation</p> <p>The PTC process incorporates TAP applicability review for proposed sources. Compliance with toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments demonstrates pre-construction compliance...</p>	<p>Flare: Applicable.</p> <p>Engine : Applicable</p>	<p>Compliant.</p> <p>PTC Number P2010.0146 for landfill, flare and engine exhaust granted 6 April 2010 24 month term.</p>	<p>PTC granted and conditions kept by Permittee.</p>	<p>PTC is valid for 24 months after 6 April 2010. Construction must begin within that time, and not cease for more than 12 months during construction.</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.4 [24]	<p>40 CFR 63 Subpart AAAA <i>et seq.</i> ie 40 CFR 63.1960 National Emissions Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills – SSM Plan</p> <p>Maintain permanent on-site copy of Startup, Shutdown, and Malfunction Plan</p>	<p>Collection System : Applicable in future.</p> <p>Flare: Applicable in future.</p> <p>Engine : Applicable in future.</p> <p>Pending Applicable</p>	<p>Applicability Pending</p>	<p>Permanent on-site copy of Startup, Shutdown, and Malfunction Plan that meets [40 CFR 63.6(e)(3)] developed and maintained</p>	<p>Future Milestone.</p> <p>Landfill's NMOC projected >50Mg/yr after about 2024.</p>

	that meets [40 CFR 63.6(e)(3)]	after NMOC>50 Mg/yr.			
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Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.5 [25]	<p>40 CFR 63 Subpart AAAA <i>et seq.</i> ie 40 CFR 63.1980(b) National Emissions Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills – General Provisions and Table 1</p> <p>Keep records and reports specified in General provisions of 40 CFR 60, and Table 1 of 40 CFR 63 Subpart AAAA.</p>	<p>Collection System : Applicable in future.</p> <p>Flare: Applicable in future.</p> <p>Engine : Applicable in future.</p> <p>Pending Applicable after NMOC>50 Mg/yr.</p>	Applicability Pending	Develop and Maintain permanent on-site copy of records and reports specified in General provisions of 40 CFR 60, and Table 1 of 40 CFR 63 Subpart AAAA.	<p>Future Milestone.</p> <p>Landfill's NMOC projected >50Mg/yr after about 2024.</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.6 [29]	<p>40 CFR 63 Subpart AAAA National Emissions Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills – Reporting Addresses</p> <p>Compliance reporting required by this standard shall be made to both of the following addresses :</p>	<p>LFG Collection System : Applicable</p> <p>Flare: Applicable.</p> <p>Engine : Applicable</p>	<p>Compliance Pending</p> <p>LFG collection system not yet ordered or installed.</p>	Notifications and Reports filed on time.	LFG collection system reporting will be submitted upon start-up of the LFG collection system.

EPA Region 10 Director, Office of Air Quality (OAQ-107)	[all info] Air Quality Permit Compliance
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1200 Sixth Avenue Seattle, WA 98101	Idaho Department of Environmental Quality Pocatello Regional Office 444 Hospital Way, Suite 300 Pocatello, ID 83201 [performance test data only] Source Test Review Idaho Department of Environmental Quality 1410 North Hilton Street Boise, ID 83706
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Clean Air Act of 1970 (CAA) New Source Performance Standards (NSPS) Review

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.7 [5]	40 CFR 60 Subpart JJJJ <i>et seq.</i> ie 40 CFR 60.4233(e) Stationary Spark Ignition Internal Combustion Engines -- Standards of Performance Engines 500 ≥ HP ≥ 1350 Manufactured 1-1-2008 : NOx < 3.0 g/hp-hr CO < 5.0 g/hp-hr VOC < 1.0 g/hp-hr Manufactured 7-1-2010 : NOx < 2.0 g/hp-hr CO < 5.0 g/hp-hr VOC < 1.0 g/hp-hr	Flare: Not Applicable. Engine : Applicable	Compliance Pending Note: Engine not yet ordered or installed.	New Engine: Inspection of Factory performance guarantee. Documentation of operations and maintenance per factory specifications.	Post Start-Up: Continuous compliance with factory specifications for operations and maintenance.

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.8 [10] Option B only: [12]	40 CFR 60 Subpart JJJJ <i>et seq.</i> ie 40 CFR 60.4243(b) Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Compliance Demonstration Demonstrate	Flare: Not Applicable. Engine : Applicable Note: Permittee intends to use option (a).	Compliance Pending Note: Engine not yet ordered or installed.	<u>Option (a):</u> Purchase an engine certified per Subpart JJJJ and operate per manufacturer's emission-related instructions, with records of conducted	<u>Option (a):</u> Continuous compliance with factory specifications for operations and maintenance. <u>Option (b):</u> Initial Performance

	<p>compliance by Option (a) <u>OR</u> Option (b)</p>			<p>maintenance to demonstrate compliance. No Performance Testing required.</p> <p><u>Option (b):</u> Purchase an non-certified engine and test per “performance Tests” requirements of Subpart JJJJ [ref. PTC P-2009.0146, Condition 12] with a written maintenance plan and records of conducted maintenance to demonstrate compliance. Initial Performance Test, plus recurring tests after 8760 hrs engine operation, or 3 years, are required.</p>	<p>Test, within 1 year of engine start-up, plus recurring tests after 8760 hrs engine operation, or 3 years.</p>
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Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.9 [11]	40 CFR 60 Subpart JJJJ <i>et seq.</i> ie 40 CFR 60.4243(g) Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Catalyst Maintenance Air-to-Fuel ratio (AFR) controller to be maintained and operated per manufacturer's recommendations, to minimize NOx emissions.	Flare: Not Applicable. Engine : Applicable if engine incorporates three-way catalyst or non-selective catalytic reduction for NOx control.	Compliance Pending Note: Engine not yet ordered or installed.	Compliance with factory specifications for operations and maintenance documented in on-site engine maintenance records.	Post Start-Up: Continuous compliance with factory specifications for operations and maintenance.

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.10 [13]	40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.752(b) Standards of Performance for Municipal Solid Waste Landfills – <ul style="list-style-type: none"> • Calculate NMOC Emission Rate, NMOC < 50 Mg/yr • Re-calculate NMOC annually until NMOC > 50 Mg/yr, or until landfill closed 	Landfill Area Source: Applicable Flare: not Applicable. Engine : not Applicable	In Compliance Last annual NMOC report calculated in April, 2010.	Simulation modeling of landfill NMOC generation.	These calculations are input to annual NMOC generation report filed in May, annually.

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.11 [17]	<p>40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.757(b) Standards of Performance for Municipal Solid Waste Landfills – NMOC Emission Rate Reports</p> <p>Report annual or 5-year NMOC emission rate calculates using procedures of 40 CFR 60.754(a) or (b). Include all data, calculations, sample reports, and measurements used in the estimate.</p>	<p>Landfill Area Source: Applicable</p> <p>Flare: not Applicable.</p> <p>Engine : not Applicable</p>	<p>In Compliance</p> <p>Last annual NMOC report filed in April, 2010.</p>	Simulation modeling of landfill NMOC generation.	<p>Annual NMOC generation report filed in May, annually.</p> <p><i>Note: 40 CFR 60.757(b) makes this annual NMOC report not required after installation of LFG collection and control system meeting requirements of 40 CFR 60.753 and 60.755.</i></p>
4.5.12 [19]	<p>40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.757(d) Standards of Performance for Municipal Solid Waste Landfills – Landfill Closure</p> <p>Submit Closure Report within 30 days of waste acceptance cessation.</p>	<p>MSW Landfill Applicable in future.</p>	<p>Applicability Pending</p>	Closure Report received by DEQ within 30 days of waste acceptance cessation	<p>Future Milestone.</p> <p>Landfill's projected closure is after 2031.</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.13 [20]	40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.757(e) Standards of Performance for Municipal Solid Waste Landfills – Equipment Removal Report Submit Equipment Removal Report at least 30 days prior to removal or cessation of operation of control equipment.	MSW Landfill Applicable in future.	<u>Applicability Pending</u>	Equipment Removal Report received by DEQ at least 30 days prior to removal or cessation of operation of control equipment.	Future Milestone. Landfill's projected closure is after 2031.
4.5.14 [21]	40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.757(f) Standards of Performance for Municipal Solid Waste Landfills – Active Collection System Reporting Submit reports of recorded information specified at 40 CFR 60.757(f)(1) through (f)(6) every 6 months [40 CFR 60.1980(a)]	MSW Landfill Applicable after NMOC>50 Mg/yr.	<u>Applicability Pending</u>	Reports of recorded information specified at 40 CFR 60.757(f)(1) through (f)(6) submitted every 6 months after NMOC>50 Mg/yr	Future Milestone. Landfill's NMOC projected >50Mg/yr after about 2024.
4.5.15 [22]	40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.757(g) Standards of Performance for Municipal Solid Waste Landfills – Initial Performance Test Report Submit report of initial performance test specified at 40 CFR 60.757(g)	MSW Landfill Applicable after NMOC>50 Mg/yr.	<u>Applicability Pending</u>	Reports of initial performance test specified at 40 CFR 60.757(g) submitted after NMOC>50 Mg/yr	Future Milestone. Landfill's NMOC projected >50Mg/yr after about 2024.

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.16 [23a]	40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.752(b) 40 CFR 60.758(e) Standards of Performance for Municipal Solid Waste Landfills – Recordkeeping re Design Capacity Maintain 5-yr records on site re Design Capacity, current waste in place, and year-by-year acceptance rate.	MSW Landfill Applicable Design Capacity currently > 2.5 MMg	Compliant	5-yr records maintained on site re Design Capacity, current waste in place, and year-by-year acceptance rate.	n/a Requirement met presently.
4.5.17 [23b]	40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.758(b) Standards of Performance for Municipal Solid Waste Landfills – Recordkeeping re Control Equipment and Initial Performance Test Maintain permanent records of control equipment on site until equipment removal. Maintain 5-yr records of initial performance test	Flare and Engine : Pending Applicable after NMOC>50 Mg/yr.	Applicability Pending Engine and flare not yet ordered or installed.	Permanent records of control equipment maintained on site until equipment removal. 5-yr records of initial performance test maintained on site.	Future Milestone – records will be kept beginning with start-up of engine and flare.

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.18 [23c]	40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.757(f) Standards of Performance for Municipal Solid Waste Landfills – Recordkeeping re Equipment Operating Parameters	Flare and Engine : Pending Applicable after NMOC>50 Mg/yr.	Applicability Pending Engine and flare not yet ordered or installed.	5-yr records of control equipment maintained on site until equipment removal.	Future Milestone – Records will be kept beginning with start-up of engine and flare. This work will

	Maintain 5-yr records of LFG flow to the control device [40 CFR 60.756] and Maintain 5-yr records of continuous flame or flare pilot flame monitoring [40 CFR 60.756(c)] including when absent.				be coordinated with 40 CFR 98 (Greenhouse Gas) record-keeping requirements
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Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.19 [23d]	<p>40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.757(f) Standards of Performance for Municipal Solid Waste Landfills – LFG Collection System</p> <p>Maintain permanent records of installation date and location of LFG collectors [40 CFR 60.755(b)] and Maintain permanent records of nature, deposition date, amount, and location of asbestos or non-degradable waste [40 CFR 60.759(a)(3)(i) and (ii)] including when absent.</p>	<p>Collection System :</p> <p>Pending Applicable after NMOC > 50 Mg/yr; however,</p> <p>parallel requirements flow-down from GHG Reporting regulation 40 CFR 98.</p>	<p>Compliant</p> <p>LFG Collection system not yet ordered or installed.</p> <p>Compliance beginning presently, since parallel requirements flow-down from GHG Reporting regulation 40 CFR 98.</p>	<p>Permanent, records of LFG collection system and of non-degradable waste maintained on site.</p>	<p>Compliance beginning presently, since parallel requirements flow-down from GHG Reporting regulation 40 CFR 98.</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.20 [23e]	<p>40 CFR 60 Subpart WWW <i>et seq.</i> ie 40 CFR 60.753 Standards of Performance for Municipal Solid Waste Landfills – LFG Collection and Control System Exceedances</p> <p>Maintain 5-yr records of Collection and Control System Exceedances [40 CFR 60.753], readings at point of exceedance in subsequent month, and location of exceedance.</p>	<p>Collection System :</p> <p>Pending Applicable after NMOC>50 Mg/yr.</p>	<p><u>Applicability Pending</u></p>	<p>Maintain 5-yr records of Collection and Control System Exceedances [40 CFR 60.753] after NMOC>50 Mg/yr</p>	<p>Future Milestone.</p> <p>Landfill's NMOC projected >50Mg/yr after about 2024.</p>
4.5.21 [23f]	<p>Re: Conversion of landfill capacity from cy to tons</p>	<p>MSW Landfill Not Applicable</p> <p>Design Capacity is currently in excess of 2.5 MMg.</p>	<p>n/a</p>	<p>n/a</p>	<p>n/a</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.22 [26]	<p>40 CFR 60 Subpart JJJJ <i>et seq.</i> ie 40 CFR 60.4245(a) Standards of Performance for Stationary Spark Ignition Internal Combustion Engines –</p> <p>Engine</p>	<p>Engine : Applicable</p>	<p><u>Compliance Pending</u></p> <p>Engine not yet ordered or installed.</p>	<p>Permanent records maintained of</p> <p>-- All notifications re Subpart JJJJ compliance.</p> <p>-- All engine maintenance</p>	<p>Recordkeeping and Reporting will occur beginning with start-up of engine</p>

	<p>Recordkeeping and Reporting</p> <p>Maintain permanent records of</p> <ol style="list-style-type: none"> 1) All notifications re Subpart JJJJ compliance. 2) All engine maintenance 3) Engine Certification documentation per 40 CFR 90, 1048, 1054, and 1060. 4) If engine is non-certified, documentation that the engine meets the emission standards. 			<p>-- Engine Certification documentation per reqs, and</p> <p>-- documentation that engine meets emission standards.</p>	
4.5.23 [27]	<p>40 CFR 60 Subpart JJJJ <i>et seq.</i> ie 40 CFR 60.4245(c) Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Non-Certified Engine Initial Notification</p> <p>Initial Notification consists of</p> <ul style="list-style-type: none"> -- Name and Address of Owner -- Address of affected source -- Engine make, model, engine family, sn, model year, max power, displacement -- engine control equipment -- fuel used 	<p>Engine : Not Applicable</p> <p>The permittee does not plan to utilize a non-certified engine.</p>	<p><u>n/a</u></p> <p>Engine not yet ordered or installed.</p>	<p>Engine Certification documentation</p>	<p>Engine Certification documentation will be available upon delivery of the engine</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.24 [28]	40 CFR 60 Subpart JJJJ et seq. ie 40 CFR 60.4245(d) Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Performance Testing Reporting Submit copy of each performance test within 60 days of test completion.	Engine : Not Applicable The permittee does not plan to utilize a non-certified engine. Performance testing is not required of certified engines per [PTC (10)(a)(i)]	n/a Engine not yet ordered or installed.	Engine Certification documentation	Engine Certification documentation will be available upon delivery of the engine

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.25 [29]	40 CFR 60 Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines 40 CFR 60 Subpart WWW Standards of Performance for Municipal Solid Waste Landfills – Reporting Addresses Compliance reporting required by this standard shall be made to both of the following addresses :	LFG Collection System : Pending Applicable after system installation Flare: Pending Applicable After flare installation. Engine : Pending Applicable after engine installation	Compliance Pending LFG collection system not yet ordered or installed.	Notifications and Reports filed on time.	LFG collection system reporting will be submitted upon start-up of the LFG collection system.

<p>EPA Region 10 Director, Office of Air Quality (OAQ-107) 1200 Sixth Avenue Seattle, WA 98101</p>	<p>[all info] Air Quality Permit Compliance Idaho Department of Environmental Quality Pocatello Regional Office 444 Hospital Way, Suite 300 Pocatello, ID 83201</p> <p>[performance test data only] Source Test Review Idaho Department of Environmental Quality 1410 North Hilton Street Boise, ID 83706</p>
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Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.26 M	<p>40 CFR 64.2(a) Compliance Assurance Monitoring</p> <p>Compliance Assurance Monitoring (CAM) is required for major stationary sources of air pollution for which Title V Operating Permits are required.</p>	Flare and Engine: Not Applicable	<p>n/a</p> <p>The landfill gas collection system, flare, and engine are not major sources for any criteria pollutant or TAP. None have potential pre-control emissions that equal or exceed that major source threshold.</p>	Review of the Regulation.	<p>n/a</p> <p>40 CFR 64.2(b) exempts sources subject to post-11-15-90 NSPS standards. MSW landfill NSPS is dated 3-12-96.</p>

4.5 Idaho Air Quality Regulations (IDAPA 58.01.01)

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.27 [30]	<p>Idaho Code 39-101 <i>et seq.</i> and IDAPA 58.01.01 Duty to Comply</p> <p>Permittee has continuing duty to comply with provisions of PTC. Emissions in excess of PTC limits or non-compliance with any</p>	<p>Flare and Engine: Applicable</p> <p>This will be incorporated in Title V Ops Permit</p>	<p>Compliant</p> <p>Provisions of the Title V Operating Permit, when implemented, embody requirements of the PTC</p>	Various	Various

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
	PTC condition constitutes a violation of this permit.				
4.5.28 [32]	IDAPA 58.01.01.212.01 Duty to Comply Nothing in PTC relieves Permittee from responsibility to comply with all applicable federal, state, and local regulations.	Landfill Area Source, Gas Collection System, Flare and Engine: Applicable	Compliant This condition in the Title V Operating Permit will parallel requirements of the PTC.	Various	Various
4.5.29 [40]	IDAPA 58.01.01.123 Certification All documents submitted to DEQ shall contain a certification by a responsible official, using text of IDAPA 58.01.01.123	Landfill Area Source, Gas Collection System, Flare and Engine: Applicable	Compliant This condition in the Title V Operating Permit will parallel requirements of the PTC.	DEQ inspection of permit application document or compliance report.	Various
4.5.30 [41]	IDAPA 58.01.01.125 False Statements No person shall knowingly make any false statement in any report required under this permit.	Landfill Area Source, Gas Collection System, Flare and Engine: Applicable	Compliant This condition in the Title V Operating Permit will parallel requirements of the PTC.	DEQ independent validation of permit data.	Various
4.5.31 [42]	IDAPA 58.01.01.126 Tampering No person shall knowingly render inaccurate any monitoring device or method required under this permit.	Landfill Area Source, Gas Collection System, Flare and Engine: Applicable	Compliant This condition in the Title V Operating Permit will parallel requirements of the PTC.	DEQ independent validation of permit data.	Various

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.32 [43]	IDAPA 58.01.01.209.06 Transferability	Landfill Area Source, Gas Collection System, Flare and Engine: Applicable	Compliant	Circumstances	As applicable
4.5.33 [44]	IDAPA 58.01.01.211 Severability	Landfill Area Source, Gas Collection System, Flare and Engine: Applicable	Compliant	Circumstances	As applicable

4.5.34 [33]	Idaho Code 39-108 Inspection and Entry Permittee shall allow authorized DEQ representative to -- Enter premises where sources and records are located -- Access and copy permit records -- Inspect facilities, equipment, and operating practices -- Sample and monitor substances or parameters for compliance determinations.	Landfill Area Source, Gas Collection System, Flare and Engine: Applicable	Compliant Provisions of the Title V Operating Permit, when implemented, embody requirements of the PTC	Various	Various
4.5.35 [6]	IDAPA 58.01.01.625 Opacity Limit Any Engine Stack >20% opacity limited to < 3 minutes per any 60 minute period.	Flare: Not Applicable. Engine : Applicable	Compliance Pending Engine not yet ordered or installed.	EPA Method 9 (40 CFR 60 Method 9)	Post Start-Up: No instance of opacity exceedance.

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.36 [31]	IDAPA 58.01.01.211.01 Duty to Maintain in Good Working Order PTC permittee shall at all times maintain control facilities to achieve compliance with the PTC.	Gas Collection System, Dewatering System, Flare, and Engine : Applicable	Compliance Pending Construction not yet started.	Various	Various, at all times
4.5.37 [7]	IDAPA 58.01.01.211.01 Operation and Maintenance Manual Within 60 days of Start of Construction: Develop and submit to DEQ and O&M Manual for the flare, engine, and dewatering system. Comply with General Provision 32 and manufacturer specifications.	Dewatering System: Applicable Flare: Applicable. Engine : Applicable	Compliance Pending Construction not yet started.	O&M Manual submitted on time. O&M Manual on site at all times and available to DEQ reps. On request.	O&M Manual submitted within 60 calendar days of Start-of-Construction. O&M Manual may be modified as needed to meet, e.g., non-simultaneous design and orders of equipment.

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.38 [38]	IDAPA 58.01.01.211 Monitoring and Recordkeeping, DEQ Access Permittee shall maintain sufficient records to ensure compliance with all terms and conditions of permit. Records of monitoring shall include: a) date, place, and time of sampling b) date analyses were performed	Flare and Engine: Applicable	Compliance Pending LFG system not yet ordered or installed.	Production, maintenance, and retention of required records. DEQ access to records on request.	Various

	<p>c) name of entity that performed analyses d) analytical techniques used for analyses e) results of analyses f) operating conditions at the time of monitoring -- 5-yr records retention for measurements and support info, e.g., calibration and original strip chart records. -- DEQ shall have access to either hard copy or electronic record.</p>				
<p>4.5.39 [34]</p>	<p>IDAPA 58.01.01.211 Construction and Operations Notifications</p> <p>Permittee shall notify DEQ of the following: -- Date of Initiation of Construction within 5 working days after occurrence -- Date of suspension of construction, if such suspension lasts longer than 1 year. -- Anticipated date of start-up not more than 60 or less than 30 days before occurrence -- Actual date of startup within 15 days after occurrence -- Initial data of achieving max production rate, and actual production rate, within 5 working after occurrence.</p>	<p>Flare: Applicable</p> <p>Engine : Applicable</p>	<p><u>Compliance</u> <u>Pending</u></p> <p>Engine not yet ordered or installed.</p>	<p>Notifications submitted on time.</p>	<p>Various</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.40 [15, 18]	<p>IDAPA 58.01.01.860.06 and 40 CFR 60.752(b)(2) and 40 CFR 60.757(c) Collection and Control System Design Plan</p> <p>Within 1 year of first annual NMOC emission rate > 50 Mg/yr, owner or operator shall submit a Collection and Control System Design Plan compliant with 40 CFR 60.752(b)(2)</p>	<p>LFG Collection System : Applicable in future</p> <p>Flare: Applicable in future</p> <p>Engine : Applicable in future</p>	<p>Applicability Pending</p> <p>NMOC emissions not yet in excess of 50 Mg/yr.</p>	<p>Submitted Collection and Control System Design Plan compliant with 40 CFR 60.752(b)(2)</p>	<p><u>Future Milestone.</u></p> <p>Note: NMOC emissions not expected to exceed 50 Mg/yr until approximately 2024.</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.41 [8,9]	<p>IDAPA 58.01.01.860.07 and 40 CFR 60.752(b)(1)(ii)(A) Install Collection and Control System</p> <p>Within 30 months of first annual NMOC emission rate > 50 Mg/yr, owner or operator shall install LFG collection system compliant with 40 CFR 60.752(b)(2)</p>	<p>LFG Collection System : Applicable in future</p>	<p>Applicability Pending</p> <p>NMOC emissions not yet in excess of 50 Mg/yr.</p>	<p>Annual NMOC calculation per 40 CFR 60.754(a).</p> <p>Recordkeeping per 40 CFR 60.758(a).</p> <p>Reporting per 40 CFR 60.752(b)(1)(ii)(B) and 40 CFR 60.757(b)(1, 2) and (c)(1,2)</p>	<p>Annual reporting.</p> <p>Note: NMOC emissions not expected to exceed 50 Mg/yr until approximately 2024.</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.42 [35]	<p>IDAPA 58.01.01.157 Performance Testing - Notice to DEQ</p> <p>Permittee shall provide notice to DEQ at least 15 days prior to performance testing, if required by this permit.</p>	<p>Flare and Engine: Not Applicable</p> <p>Permittee plans to use a certified engine, per "Option A" under 40 CFR 60 Subpart JJJJ et seq. ie 40 CFR 60.4243(b) Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Compliance Demonstration. Performance testing not required.</p>	<p>n/a</p> <p>Engine not yet ordered or installed.</p>	<p>Inspection of engine compliance certification upon delivery and start-up.</p>	n/a
4.5.43 [36]	<p>IDAPA 58.01.01.157 Performance Testing – Test Protocol to DEQ Advised</p> <p>All Performance testing shall be conducted in accordance with procedures of IDAPA 58.01.01.157</p> <p>Permittee is encouraged to submit a Performance Test Protocol to DEQ at least 30 days prior to conducting any performance testing, if required by this permit.</p>	<p>Flare and Engine: Not Applicable</p> <p>Permittee plans to use a certified engine, per "Option A" under 40 CFR 60 Subpart JJJJ et seq. ie 40 CFR 60.4243(b) Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Compliance Demonstration. Performance testing not required.</p>	<p>n/a</p> <p>Engine not yet ordered or installed.</p>	<p>Inspection of engine compliance certification upon delivery and start-up.</p>	n/a

<p>4.5.44 [37]</p>	<p>IDAPA 58.01.01.157 Performance Test Report</p> <p>Within 30 days of conclusion of any performance test required by this permit, Permittee shall submit a Performance Test Report to DEQ.</p>	<p>Flare and Engine: Not Applicable</p> <p>Permittee plans to use a certified engine, per "Option A" under 40 CFR 60 Subpart JJJJ et seq. ie 40 CFR 60.4243(b) Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Compliance Demonstration. Performance test not req'd</p>	<p>n/a</p> <p>Engine not yet ordered or installed.</p>	<p>Inspection of engine compliance certification upon delivery and start-up.</p>	<p>n/a</p>
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Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
<p>4.5.45 [39]</p>	<p>IDAPA 58.01.01.130-136 Excess Emissions</p> <p>Permittee shall comply with procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to start-up, shutdown, scheduled maintenance, safety measures, upsets, and breakdowns.</p>	<p>Flare and Engine: Applicable</p>	<p>Compliance Pending</p> <p>Engine not yet ordered or installed.</p>	<p>Measurement and documentation of key emission compliance parameters. Timely reporting of emission exceedances.</p>	<p>Various Random, based on engine performance.</p>

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.46 [16]	40 CFR 60.757(a)(3) Amended Design Capacity Report Within 90 days of landfill design capacity exceeding 2.5 MMg and 2.5 M m3, permittee shall file an Amended Design Capacity Report.	LFG Collection System : Applicable	Compliant Last Amended Design Capacity Report filed in April, 2010.	Amended Design Capacity Report filed within 90 days of design capacity exceeding 2.5 MMg and 2.5 M m3.	One-time filing has been completed.

Ref	Citation and Requirement	Source Discussed / Applicability	Compliance Status	Method Used to Determine	Compliance Schedule
4.5.47 [14]	IDAPA 58.01.01.313.01 (b), and IDAPA 58.01.01.859.04 (b), 40 CFR 60.752(b) Tier I Operating Permit Application Within 12 months of becoming a Tier I source, permittee shall submit a complete application for can initial Tier I Operating Permit.	Flare: Applicable Engine : Applicable	Compliance Pending This document embodies the referenced Tier I Operating Permit application.	Tier I Operating Permit application meeting requirement of 40 CFR 60.752(c)	Within 12 months of becoming a Tier I source, via Landfill Design Capacity > 2.5 MMg. , from January, 2010.

4.6 Bannock County Air Quality Requirements

Bannock County does not have other air quality requirements that are applicable to this analysis.

5.0 Proposed Determination of Non-Applicability

The Applicant proposes that those requirements designated in column 3 "Applicability" of Section 4.0 of this document as "Not Applicable" be accorded that designation in the Operating Permit.

6.0 Alternative Operating Scenarios

No Alternative Operating Scenarios are proposed by the Applicant at this time.

The Applicant's development plans call for initial installation of the LFG well field and gas collection system, including the gas-moving blower and flare. This system will be started and used to evaluate quantity and quality of the LFG production, prior to ordering and installing the engine. The engine installation will follow characterization and validation of the LFG production. The PTC requirement for development of the Operations and Maintenance Plan for the gas collection system will be performed in phases to correspond to equipment activation schedules.

7.0 Compliance Certification

"I have reviewed the compliance status statements made in Section 2.6 and Section 4.0 of this permit application, including their supporting analyses and schedules.

"Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete."

For the Owner / Operator :

Therese Marchetti 11-8-10 date
Therese Marchetti, Manager
Bannock County Solid Waste Department

8.0 Compliance Plans

The Landfill Management Team believes that the Fort Hall Mine Road landfill currently complies with all applicable environmental regulatory requirements. [See Sections 2.6, 4.0, and 7.0 of this permit application.]

Compliance Plans are therefore not applicable to this permit application.

9.0 Trading Scenarios

Bannock County is not requesting any trading scenarios that may be authorized by IDAPA 58.01.01.440 or IDAPA 58.01.01.460 at this time.

Bannock County reserves the privilege of exercising the option to request such trading scenarios in the future.

10.0 Insignificant Activities Based on Size or Production Rate

40 CFR Part 70 provides that the Administrator may approve as part of a State program a list of insignificant activities and emissions levels which need not be included in permit applications. However, for insignificant activities which are exempted because of size or production rate, a list of such insignificant activities must be included in the application.

The Applicant has reviewed the list of activities that have been deemed by Idaho DEQ [IDAPA 58.01.01.317.1(b)] to be insignificant on the basis of size or production rate. We find that this exemption is applicable to the Flare – flare emissions are less than 10% of the IDAPA 58.01.01.006 (104) significance levels (Emission Data reference is PTC Exhibit 8-5 [p 24 of this document]) for all pollutants, with no TAP or CTAP emissions that exceed 1 tpy (TAP emission data references are PTC Exhibit 8-3 and PTC Exhibit 8-4.)

The following units and activities are determined to be insignificant based on their size or production rate: (3-23-98)

(1) Operation, loading and unloading of storage tanks and storage vessels, with lids or other appropriate closure and less than two hundred sixty (260) gallon capacity (thirty five cubic feet (35 ft³)), heated only to the minimum extent to avoid solidification if necessary. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(2) Operation, loading and unloading of storage tanks, not greater than one thousand one hundred (1,100) gallon capacity, with lids or other appropriate closure, not for use with hazardous air pollutants, having a maximum vapor pressure of five-hundred fifty (550) mm Hg. (3-23-98)

Not applicable – Activity does not occur at the landfill.

(3) Operation, loading and unloading of volatile organic compound storage tanks, ten thousand (10,000) gallons capacity or less, with lids or other appropriate closure, vapor pressure not greater than eighty (80) mm Hg at twenty-one (21) degrees C. **Operation, loading and unloading of gasoline storage tanks, ten thousand (10,000) gallons capacity or less, with lids or other appropriate closure. (3-23-98)**

Not applicable – Activity does not occur at the landfill.

Operation, loading and unloading storage of butane, propane, or liquified petroleum gas (LPG), storage tanks, vessel capacity under forty thousand (40,000) gallons. (3-3-95)L

Insignificant Activity – LPG Storage Tank (fueling flare pilot light) has a vessel capacity of less than 40,000 gallons.

Combustion source, less than five million (5,000,000) Btu/hr, exclusively using natural gas, butane, propane, and / or LPG. (3-3-95)L

Insignificant Activity – The flare pilot light is rated at less than 500,000 Btu/Hr..

Combustion source, less than five hundred thousand (500,000) Btu/hr, using any commercial fuel containing less than four-tenths percent (0.4%) by weight sulfur for coal or less than one percent (1%) by weight sulfur for other fuels. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(7) Combustion source, of less than one million (1,000,000) Btu/hr, if using kerosene, or No. 1 or No. 2 fuel oil. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(8) Combustion source, not greater than five hundred thousand (500,000) Btu/hr, if burning waste wood, wood waste or waste paper. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(9) Welding using not more than one (1) ton per day of welding rod. (3-3-95)

Insignificant Activity – Welding that occurs at the landfill uses less than 1 tpd of welding rods.

(10) Foundry sand molds, unheated, and using binders with less than twenty-five hundredths percent (0.25%) free phenol by sand weight. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(11) “Parylene” coaters using less than five hundred (500) gallons of coating per year. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(12) Printing and silk-screening, using less than two (2) gallon/day of any combination of the following: Inks, coatings, adhesives, fountain solutions, thinners, retarders, or non-aqueous cleaning solutions. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(13) Water cooling towers and ponds, not using chromium-based corrosion inhibitors, not used with barometric jets or condensers, not greater than ten thousand (10,000) gpm, not in direct contact with gaseous or liquid process streams containing regulated air pollutants. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(14) Combustion turbines of less than five hundred (500) HP. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(15) Batch solvent distillation, not greater than fifty-five (55) gallons batch capacity. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(16) Municipal and industrial water chlorination facilities of not greater than twenty million (20,000,000) gallons per day capacity. The exemption does not apply to waste water treatment. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(17) Surface coating, using less than two (2) gallons per day. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(18) Space heaters and hot water heaters using natural gas, propane or kerosene and generating less than five million (5,000,000) Btu/hr. (3-3-95)

Not applicable – Activity does not occur at the landfill.

(19) Tanks, vessels, and pumping equipment, with lids or other appropriate closure for storage or dispensing of aqueous solutions of inorganic salts, bases and acids excluding : (3-3-95)L

(a) Ninety-nine percent (99%) or greater H₂SO₄ or H₃PO₄. (3-3-95)L

(b) Seventy percent (70%) or greater HNO₃. (3-3-95)L

(c) Thirty percent (30%) or greater HCl. (3-3-95)L

(d) More than one (1) liquid phase where the top phase is more than one percent (1%) volatile organic compounds. (3-23-98)

Not applicable – Activity does not occur at the landfill.

(20) Equipment used exclusively to pump, load, unload, or store high boiling point organic material, material with initial boiling point (IBP) not less than one hundred fifty (150) degrees C or vapor pressure (vp) not more than five (5) mm Hg at twenty-one (21) degrees C with lids or other appropriate closure. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(21) Smokehouses under twenty (20) square feet. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(22) Milling and grinding activities, using paste-form compounds with less than one percent (1%) volatile organic compounds. (3-23-98)

Not applicable – Activity does not occur at the landfill.

(23) Rolling, forging, drawing, stamping, shearing, or spinning hot or cold metals. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(24) Dip-coating operations, using materials with less than one percent (1%) volatile organic compounds. (3-23-98)

Not applicable – Activity does not occur at the landfill.

(25) Surface coating, aqueous solution or suspension containing less than one percent (1%) volatile organic compounds. (3-23-98)

Not applicable – Activity does not occur at the landfill.

(26) Cleaning and stripping activities and equipment, using solutions having less than one percent (1%) volatile organic compounds by weight. On metallic substrates, acid solutions are not considered for listing as insignificant. (3-23-98)

Not applicable – Activity does not occur at the landfill.

(27) Storage and handling of water based lubricants for metal working where the organic content of the lubricant is less than ten percent (10%). (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(28) Municipal and industrial waste water chlorination facilities of not greater than one million (1,000,000) gallons per day capacity. (3-3-95)L

Not applicable – Activity does not occur at the landfill.

(29) Domestic sewage treatment ponds with average flow rates less than four hundred (400) gpm or treating waste from less than three thousand (3000) people from non-residential sources. (3-23-98)

Not applicable – Activity does not occur at the landfill.

(30) An emission unit or activity with potential emissions less than or equal to the significant emission rate as defined in Section 006 and actual emissions less than or equal to ten percent (10%) of the levels contained in Section 006 of the definition of significant and no more than one (1) ton per year of any hazardous air pollutant. (5-3-03)

This exemption is Applicable to the Flare – flare emissions are less than 10% of the IDAPA 58.01.01.006 (104) significance level (Emission Data reference is PTC Exhibit 8-5 [p 24 of this document]) for all pollutants, and no TAP or CTAP emission exceeds 1 tpy (TAP emission data references are PTC Exhibit 8-3 and Exhibit 8-4.)

FLARE EMISSIONS AT MAX LFG PRODUCTION

NAAQS Criteria Pollutant	Significant Emission Rate per IDAPA 58.01.01.006 (104) (tpy)		Percent of Significant Emission Rate
CO	100	2.95	2.95%
NO2	40	2.52	6.31%
SO2	40	0.97	2.43%
PM-10	25	0.95	3.81%
O3	40	0.00	0.00%
Pb	as VOC 0.6	0.00	0.00%
Fluorides	3	0	0.00%
H2SO4 mist	7	0	0.00%
H2S	10	0.33	3.30%
TRS	10	0.42	4.20%
NMOC	50	2.27	4.54%

This exemption is not applicable to the engine. For the Cat 3516 engine, this test fails for CO (24 tpy / 100 tpy of significance threshold), and for NOx (45 tpy / 40 tpy of significance threshold).
end

11.0 Acid Rain Program Requirements

The air quality emissions sources at Bannock County's Fort Hall Mine Road Landfill are not subject to the Acid Rain program requirements of 40 CFR 72.6, Subpart C, since, at maximum capacity, the generator(s) will be producing only 6% of the threshold electrical power needed for consideration in the Acid Rain Program.

40 CFR 72.6 (b) "The following types of units are not affected units subject to the requirements of the Acid Rain Program .:"

...(4) a Co-Generation facility which:

(ii) For units which commenced construction after November 15, 1990, supplies equal to or less than one-third its potential electrical output capacity or equal to or less than 219,000 MWe-hrs actual electric output on an annual basis to any utility power distribution system for sale (on a gross basis). However, if in any three calendar year period after November 15, 1990, such unit sells to a utility power distribution system an **annual average** of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis), that unit shall be an affected unit, subject to the requirements of the Acid Rain program.

Calculation to Determine Applicability of Acid Rain Program per 40 CFR 72.6					
the threshold of applicability is co-gen units producing more than					
219000 MWe / yr					
or					
24.98288843	MWe per hr, based on	8766	hrs/year		
But max gas flow at landfill at max year (2031) is					
15,926,469	BTU/hr from available LFG at max year 2031	or	4668048	watts/hr thermal	
	3414.35	BTU/hr per kW thermal	4668.048	KW thermal	
4664.568366 kW thermal / hr at max year					
From Cat 3516 Spec Sheet, p1					
at 100% power	Input Energy =	151085	btu/min		
	Work Output =	48703	btu/min		
	or	0.322355 thermal efficiency			
to be conservative, neglecting losses from electrical generation,					
4664.568366	kW thermal / hr times	32.24%	is	1503.647	KW electrical/ hr
				or	
				1.503647	MW electrical / hr
				or	
				13180.97	MW electrical / year
				or	
6.02% of the threshold to bar exemption per 40 CFR 72.6(b)(4)(ii)					

12.0 Permit Shield Request

This section identifies and summarizes rules that do not apply.

The Applicant understands that

- a requirement identified in the Title V Operating Permit as non-applicable is not enforceable by EPA, DEQ, or citizens, and that
- Compliance with all conditions of the Permit will be considered as compliance with all regulatory requirements in affect as of the date of permit issuance.

The following table describes the regulatory requirement from which the facility is requesting a permit shield, cites the rule reference and the date of the rule version (e.g., IDAPA 58.01.01.860 (04/05/2000), explains the reason for requesting a permit shield for each regulatory requirement, and indicates the length of time over which the permit shield is requested.

Nr.	Regulatory Citation and Date	Applicable ?	Shield requested ?	Reason for Request	Proposed Duration of Shield
1	40 CFR 60.4233 (f)(1) through (f)(5) <i>et al.</i> 1-18-08	Conditional	Yes	Proposed Cat 3516 engine will not be a "modified or reconstructed engine"	Permit Issue through "Equipment Removal Notification"
2	40 CFR 60.4237 (a) through (c) <i>et al.</i> 40 CFR 60.4248 1-18-08	Conditional	Yes	Proposed Cat 3516 engine will not serve as an "emergency engine"	Permit Issue through "Equipment Removal Notification"
3	40 CFR 60.4238 <i>et al. incl Table 4</i> 40 CFR 60.4248 73 FR 59176 <i>et seq.</i> 1-8-08	Conditional	Yes	Permittee will not act as a "manufacturer" of engines	Permit Issue through "Equipment Removal Notification"
4	40 CFR 60.4243 (a)(1) or(2) and (b)(1)or (2) 1-8-08	Conditional	Yes	Assurance that if Certified Engine is purchased, no performance testing will be required	Permit Issue through "Equipment Removal Notification"
5	40 CFR 60.4243 (g) 1-8-08	Conditional	Yes	Assurance that if three-way catalysts / NSCR is not included in Certified Engine, no air-to-fuel ratio controllers will be required.	Permit Issue through "Equipment Removal Notification"
6	40 CFR 60.4244 <i>et seq.</i> 1-8-08	Conditional	Yes	Assurance that if Certified Engine is purchased, no performance testing will be required, and 40 CFR 60.4244 is not applicable.	Permit Issue through "Equipment Removal Notification"

Nr.	Regulatory Citation and Date	Applicable ?	Shield requested ?	Reason for Request	Proposed Duration of Shield
7	40 CFR 60.4245 <i>l and (d)</i> 73 FR 3591 73 FR 59177 10-8-08	Conditional	Yes	Assurance that if Certified Engine is purchased, no performance testing will be required, and 40 CFR 60.4245 l and (d) are not applicable.	Permit Issue through "Equipment Removal Notification"
8	40 CFR 60.4246 <i>et seq.</i> 73 FR 3591 73 FR 59177 10-8-08	No	Yes	Proposed Cat 3516 engine will not be a " Mobile Source ".	Permit Issue through "Equipment Removal Notification"
9	40 CFR 60.Subpart JJJJ Table 2 1-8-08	Conditional	Yes	Assurance that if Certified Engine is purchased, no performance testing will be required, and Table 2 is not applicable.	Permit Issue through "Equipment Removal Notification"
10	40 CFR 60.Subpart JJJJ Table 3 Ref Section 60.8 1-8-08	Conditional	Yes	Assurance that if Certified Engine is purchased, no performance testing will be required, and General Provisions Section 60.8 (Performance Tests) are not applicable.	Permit Issue through "Equipment Removal Notification"
11	40 CFR Subpart WWW 40 CFR 60.752 (b)(2)(i) 61 FR 9919 3-12-96 63 FR 32750 6-16-98	Conditional	Yes	Assurance that since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], no Collection and Control System Design Plan will be required until NMOC exceeds 50 Mg/yr.	Permit Issue through December 31, 2024
12	40 CFR Subpart WWW 40 CFR 60.752 (b)(2)(ii) (A) <u>and</u> (B) 61 FR 9919 3-12-96 63 FR 32750 6-16-98	Conditional	Yes	Assurance that, given the Permittee's voluntary installation of LFG collection and control system , since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], requirements for Collection and Control System in this section are not applicable until NMOC exceeds 50 Mg/yr.	Permit Issue through December 31, 2024

Nr.	Regulatory Citation and Date	Applicable ?	Shield requested ?	Reason for Request	Proposed Duration of Shield
13	<p>40 CFR Subpart WWW 40 CFR 60.752 (b)(2)(iii) (B)</p> <p>61 FR 9919 3-12-96 63 FR 32750 6-16-98</p>	Conditional	Yes	<p>Assurance that, given the Permittee's voluntary installation of LFG collection and control system, since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], requirements for NMOC Control in this section are not applicable until NMOC exceeds 50 Mg/yr.</p>	Permit Issue through December 31, 2024
14	<p>40 CFR Subpart WWW 40 CFR 60.753 <i>et seq.</i></p> <p>61 FR 9919 3-12-96 63 FR 32750 6-16-98 65 FR 61778 10-17-00</p>	Conditional	Yes	<p>Assurance that, given the Permittee's voluntary installation of LFG collection and control system, since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], Operational Standards in this section are not applicable until NMOC exceeds 50 Mg/yr.</p>	Permit Issue through December 31, 2024
15	<p>40 CFR Subpart WWW 40 CFR 60.754(a)(3) "Tier 2"</p> <p>61 FR 9919 3-12-96 63 FR 32750 6-16-98 65 FR 18908 4-10-00 65 FR 61778 10-17-00 71 FR 55127 9-21-06</p>	Conditional	Yes	<p>Assurance that Permittee's voluntary use of Tier 2 sampling to make a refined estimate of LFG reserves can be used to establish NMOC generation rates vs 50 Mg/yr.</p>	Permit Issue through December 31, 2024

Nr.	Regulatory Citation and Date	Applicable ?	Shield requested ?	Reason for Request	Proposed Duration of Shield
16	40 CFR Subpart WWW 40 CFR 60.754(b)(2) 61 FR 9919 3-12-96 63 FR 32750 6-16-98 65 FR 18908 4-10-00 65 FR 61778 10-17-00 71 FR 55127 9-21-06	Conditional For LFG Analysis, use either Method 25C or Method 18	Yes	Assurance that Permittee's choice of Method 25C can be used to establish NMOC generation rates vs 50 Mg/yr.	Permit Issue through "Equipment Removal Notification"
17	40 CFR Subpart WWW 40 CFR 60.754(d) and (e) 61 FR 9919 3-12-96 63 FR 32750 6-16-98 65 FR 18908 4-10-00 65 FR 61778 10-17-00 71 FR 55127 9-21-06	Conditional	Yes	Assurance that, given the Permittee's voluntary installation of LFG collection and control system, since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], Performance testing specified in these sections is not applicable until NMOC exceeds 50 Mg/yr.	Permit Issue through December 31, 2024
18	40 CFR Subpart WWW 40 CFR 60.755 <i>et seq.</i> 61 FR 9919 3-12-96 63 FR 32752 6-16-98	Conditional	Yes	Assurance that, given the Permittee's voluntary installation of LFG collection and control system, since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], Compliance Provisions in this section are not applicable until NMOC exceeds 50 Mg/yr.	Permit Issue through December 31, 2024

Nr.	Regulatory Citation and Date	Applicable ?	Shield requested ?	Reason for Request	Proposed Duration of Shield
19	<p>40 CFR Subpart WWW 40 CFR 60.756 (a) through (f)</p> <p>61 FR 9919 3-12-96 63 FR 32752 6-16-98 65 FR 18909 4-10-00</p>	Conditional	Yes	<p>Assurance that, given the Permittee's voluntary installation of LFG collection and control system, since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], Monitoring of Operations provisions in this section are not applicable until NMOC exceeds 50 Mg/yr.</p>	Permit Issue through December 31, 2024
20	<p>40 CFR Subpart WWW 40 CFR 60.757 (a) (1) thru(3) Des. Cap Rpt.</p> <p>61 FR 9919 3-12-96 63 FR 32752 6-16-98 65 FR 18909 4-10-00</p>	Yes	Yes	<p>Assurance that previous Initial Design Capacity Report and Amended Design Capacity Reports are accepted as compliant with this section.</p>	Permit Issue through Landfill Closure
21	<p>40 CFR Subpart WWW 40 CFR 60.757 (f) and (g)</p> <p>61 FR 9919 3-12-96 63 FR 32752 6-16-98 65 FR 18909 4-10-00</p>	Conditional	Yes	<p>Assurance that, given the Permittee's voluntary installation of LFG collection and control system, since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], compliance with the Reporting Requirements of sections (f) and (g) is not required until NMOC exceeds 50 Mg/yr.</p>	Permit Issue through December 31, 2024

Nr.	Regulatory Citation and Date	Applicable ?	Shield requested ?	Reason for Request	Proposed Duration of Shield
22	<p>40 CFR Subpart WWW 40 CFR 60.758 <i>et seq.</i></p> <p>61 FR 9919 3-12-96 63 FR 32752 6-16-98 65 FR 18909 4-10-00</p>	Conditional	Yes	<p>Assurance that, given the Permittee's voluntary installation of LFG collection and control system, since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], compliance with the Recordkeeping Requirements of this section with exception of 40 CFR 60.758 (a), are not required until NMOC exceeds 50 Mg/yr.</p>	Permit Issue through December 31, 2024
23	<p>40 CFR Subpart WWW 40 CFR 60.759 <i>et seq.</i> <i>Coll. Sys. Specs</i></p> <p>61 FR 9919 3-12-96 63 FR 32752 6-16-98 64 FR 9262 2-24-99 65 FR 18909 4-10-00</p>	Yes	Yes	<p>Assurance that, given the Permittee's voluntary installation of LFG collection and control system, since landfill NMOC production is less than 50 Mg/yr [ref 40 CFR 60.752(b)], compliance with the Collection System Specifications of this section is not required until NMOC exceeds 50 Mg/yr.</p>	Permit Issue through December 31, 2024
24	<p>40 CFR 63 Subpart AAAA 40 CFR 63.1935 <i>et seq.</i> <i>NESHAPS for MSW Landfills</i></p> <p>68 FR 2238 1-16-03</p>	No	Yes	<p>Assurance that, in recognition that the Permittee is not a major source, this section is not applicable to this project.</p>	Permit Issue through Landfill Closure
25	<p>43 USC §4321 <i>et seq.</i> <i>NEPA</i></p>	No	Yes	<p>Assurance that, in recognition that the Permittee's proposal is not a significant federally-funded project, NEPA is not applicable to this project.</p>	Permit Issue through Landfill Closure

Nr.	Regulatory Citation and Date	Applicable ?	Shield requested ?	Reason for Request	Proposed Duration of Shield
26	43 USC §4321 <i>et seq.</i> CERCLA SARA	No	Yes	Assurance that, in recognition that the Landfill is not abandoned, nor a CERCLA-listed site., CERCLA and SARA are not applicable to this project.	Permit Issue through Landfill Closure
27	42 USC §9601 <i>et seq.</i> EPCRA [SARA Title III]	No	Yes	Assurance that, in recognition that the Landfill does not accept RCRA/CERCLA hazardous wastes. EPCRA is not applicable to this project.	Permit Issue through Landfill Closure
28	7 USC §136 <i>et seq.</i> FIFRA	No	Yes	Assurance that, in recognition that the Landfill does not accept pesticides for disposal, FIFRA is not applicable to this project.	Permit Issue through Landfill Closure
29	14 USC §2601 <i>et seq.</i> TSCA	No	Yes	Assurance that, in recognition that the Landfill <ul style="list-style-type: none"> • does not accept PCB-containing materials, • does not accept or generate radon • maintains compliant, segregated disposal of asbestos and lead-based paint. TSCA is not applicable to this permitting action.	Permit Issue through Landfill Closure
30	33 USC §1251 <i>et seq.</i> Clean Water Act NPDES	No	Yes	Assurance that, in recognition that the Landfill does not discharge to surface waters, NPDES permitting is not applicable to this project.	Permit Issue through Landfill Closure

Nr.	Regulatory Citation and Date	Applicable ?	Shield requested ?	Reason for Request	Proposed Duration of Shield
31	42 USC §6901 <i>et seq.</i> RCRA Subtitle "C" 40 CFR 258	No	Yes	Assurance that, in recognition that the Landfill does not accept RCRA wastes, and does not contain unremediated hazardous wastes from earlier legal disposal or leaking USTs, RCRA Subtitle C permitting is not applicable to this project.	Permit Issue through Landfill Closure

end

13.0 Certification of the Permit Application

"I have reviewed this permit application, including its supporting analyses and data schedules, and believe that, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete."

Note: A separate identical certification is made in the Application on DEQ Form GI

For the Owner / Operator :

Therese Marchetti 11-8-10 date
Therese Marchetti, Manager
Bannock County Solid Waste Department

Owner's Engineer :

[Signature] 8 Nov 10 date
Stephen Freiburger, P.E.
Paragon Consulting, Inc.

Permitting Specialist (PTC Modeler) :

[Signature] 11-8-10 date
Norman R. Ricks
EnergySolutions Performance Strategies, Inc.

end

Attachment 1

**Permit to Construct
P2009-0146
Issued April 6, 2010**

<p style="text-align: center;">Air Quality PERMIT TO CONSTRUCT State of Idaho Department of Environmental Quality</p>		PERMIT NUMBER	CLASS	SIC
		P-2009.0146	B	4953
		FACILITY ID	AQCR	NAICS
		005-00062	61	562212
		ZONE	UTM COORDINATES (km)	
12	387.8	4737.6		
PERMITTEE				
Bannock County Solid Waste Department, Fort Hall Mine Road Landfill				
PROJECT				
Initial permit to construct				
MAILING ADDRESS	CITY	STATE	ZIP	
1500 North Fort Hall Mine Road	Pocatello	ID	83204	
FACILITY CONTACT	TITLE	TELEPHONE		
Therese Marchetti	Manager	(208) 236-0607		
RESPONSIBLE	TITLE	TELEPHONE		
Therese Marchetti	Manager	(208) 236-0607		
EXACT PLANT LOCATION		COUNTY		
1500 North Fort Hall Mine Road, Pocatello				
GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS				
Municipal waste landfill				
PERMIT AUTHORITY				
<p>This permit is issued according to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.200 through 228, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.</p> <p>This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.</p> <p>This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.</p> <p>This permit has been granted on the basis of design information presented with its application. Changes in design, equipment or operations may be considered a modification. Modifications are subject to DEQ review in accordance with IDAPA 58.01.01.200 through 228 of the Rules for the Control of Air Pollution in Idaho.</p>				
		DATE ISSUED	April 6, 2010	
CAROLE ZUNDEL, PERMIT WRITER				
MIKE SIMON, STATIONARY SOURCE MANAGER				

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PERMIT TO CONSTRUCT SCOPE

Purpose

1. This is the initial permit to construct a landfill gas collection system with a flare and a landfill gas combustion engine.
2. The emission sources regulated by this permit are listed in the following table.

Table 1 REGULATED SOURCES

Source Descriptions	Emission Controls
Closed Cell 1943-1993 1,505,097 Mg	None
Cell A 1994-2013 (estimated) 1,160,000 Mg	Flare
Cell 4 2011-2031 (estimated) Total capacity for all cells: 7,310,000 Mg	Caterpillar 3516 Engine to Generator

FORT HALL MINE ROAD LANDFILL

Process Description

3. Process Description

The landfill currently consists of two cells with a capacity of 2,464,257 short tons (2.24 E06 megagrams (Mg)). The original cell (Closed Cell, calculated capacity of 1,505,097 Mg, 1943 – 1993) was succeeded by the current cell (Cell A, calculated capacity of 1,160,000 mg, 1994 – 2013 (estimated)). A third cell (Cell 4) is planned to come on line in 2011, and increase the landfill design capacity to 8,061,025 tons (7.31 E06 Mg) at that time. During 2010, Bannock County proposes to begin installing a landfill gas (LFG) collection system at its Fort Hall Mine Road Landfill. Collected LFG will be piped to an open flare and to a lean-burn Caterpillar 3516 engine driving an electrical generator that is connected to the commercial power grid.

4. Emission Controls Description

Table 2 LANDFILL DESCRIPTION

Emissions Units / Processes	Emission Control Devices
Closed Cell 1943-1993 1,505,097 Mg	None
Cell A 1994-2013 (estimated) 1,160,000 Mg	Flare
Cell 4 2011-2031 (estimated) Total capacity for all cells: 7,310,000 Mg	Caterpillar 3516 Engine to Generator

Emission Limits

5. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

In accordance with 40 CFR 60.4233(e), the permittee must comply with the emission standards in Table 3 to this subpart for their stationary SI ICE.

Table 3 to Subpart JJJJ of Part 60—NO_x, CO, and VOC Emission Standards for Stationary SI Landfill/Digester Gas Engines

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards ^a					
			g/HP-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC ^b	NO _x	CO	VOC ^b
Landfill/Digester Gas Lean Burn	500≥HP<1,350	1/1/2008 7/1/2010	3.0	5.0	1.0	220	610	80
			2.0	5.0	1.0	150	610	80

^aOwners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O₂.

^bFor purposes of Subpart JJJJ, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

[40 CFR 60.4233(e)]

6. Opacity Limit

Emissions from the engine stack, or any other stack, vent, or functionally equivalent opening associated with the engine, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

[IDAPA 58.01.01.625]

Operating Requirements

7. Operation and Maintenance Manual

Within 60 days of commencing construction, the permittee shall have developed and submitted to DEQ an Operations and Maintenance (O&M) manual for the flare, engine, and dewatering system which describes the procedures that will be followed to comply with General Provision 32 and the manufacturer specifications. The operation and monitoring requirements specified in the O&M manual are incorporated by reference to this permit and are enforceable permit conditions. The O&M manual may be updated as needed. This manual shall remain on site at all times and shall be made available to DEQ representatives upon request.

[IDAPA 58.01.01.211.01]

8. Installation of Collection and Control System

In accordance with IDAPA 58.01.01.860.07, all owners or operators of landfills subject to Section 860 that have nonmethane organic compound emission rates less than fifty (50) Mg/yr on or after November 19, 1999 shall install collection and control systems within thirty (30) months after the date the first annual nonmethane organic compound emission rate equals or exceeds fifty (50) Mg/yr as specified in 40 CFR Section 60.36c(b).

[IDAPA 58.01.01.860.07]

9. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Calculate NMOC Emission Rate, NMOC equal to or greater than 50 megagrams

In accordance with 40 CFR 60.752(b)(1)(ii)(A), if the NMOC emission rate, upon recalculation required in 40 CFR 60.754(b)(1)(ii), is equal to or greater than 50 megagrams per year, the owner or operator shall install a collection and control system in compliance with 40 CFR 60.752(b)(2).

[40 CFR 60.752(b)(1)(ii)(A)]

10. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Compliance Demonstration

In accordance with 40 CFR 60.4243(b), the permittee must demonstrate compliance according to one of the methods specified in (a) or (b) as follows:

- (a) Purchasing an engine certified according to procedures specified in Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in (i) or (ii):

- (i) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator.
- (ii) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance as follows:

If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.
- (b) Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in the engine emission limits section of this permit and according to the requirements specified in the engine testing requirements section of this permit, as applicable, and must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

[40 CFR 60.4243(b)]

11. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Catalyst Maintenance

In accordance with 40 CFR 60.4243(g), it is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

[40 CFR 60.4243(g)]

12. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Performance Testing

In accordance with 40 CFR 60.4244, owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this permit condition.

- (a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in 40 CFR 60.8 and under the specific conditions that are specified by Table 4 to this permit.

Table 4 Requirements for Performance Tests

For each	Complying with the requirement to	You must	Using	According to the following requirements
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<p>1. Stationary SI internal combustion engine demonstrating compliance according to §60.4244.</p>	<p>a. limit the concentration of NO_x in the stationary SI internal combustion engine exhaust.</p>	<p>i. Select the sampling port location and the number of traverse points;</p>	<p>(1) Method 1 or 1A of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005)^a.</p>	<p>(a) If using a control device, the sampling site must be located at the outlet of the control device.</p>
	<p>ii. Determine the O₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;</p>	<p>(2) Method 3, 3A, or 3B^b of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005)^a.</p>	<p>(b) Measurements to determine O₂ concentration must be made at the same time as the measurements for NO_x concentration.</p>	
	<p>iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;</p>	<p>(3) Method 2 or 19 of 40 CFR part 60.</p>		
	<p>iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and</p>	<p>(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).</p>	<p>(c) Measurements to determine moisture must be made at the same time as the measurement for NO_x concentration.</p>	
	<p>v. Measure NO_x at the exhaust of the stationary internal combustion engine.</p>	<p>(5) Method 7E of 40 CFR part 60, appendix A, Method D6522–00(2005)^a, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 (incorporated by reference, see §60.17).</p>	<p>(d) Results of this test consist of the average of the three 1-hour or longer runs.</p>	
	<p>b. limit the concentration of CO in the stationary SI internal combustion engine exhaust.</p>	<p>i. Select the sampling port location and the number of traverse points;</p>	<p>(1) Method 1 or 1A of 40 CFR part 60, appendix A.</p>	<p>(a) If using a control device, the sampling site must be located at the outlet of the control device.</p>
	<p>ii. Determine the O₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;</p>	<p>(2) Method 3, 3A, or 3B^b of 40 CFR part 60, appendix A or ASTM Method D6522–00(2005)^a.</p>	<p>(b) Measurements to determine O₂ concentration must be made at the same time as the measurements for CO concentration.</p>	
	<p>iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;</p>	<p>(3) Method 2 or 19 of 40 CFR part 60.</p>		
	<p>iv. If necessary,</p>	<p>(4) Method 4 of 40 CFR</p>	<p>(c) Measurements to</p>	

	measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see §60.17).	determine moisture must be made at the same time as the measurement for CO concentration.	
	v. Measure CO at the exhaust of the stationary internal combustion engine.	(5) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00(2005) ^a , Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	
	c. limit the concentration of VOC in the stationary SI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A.	(a) If using a control device, the sampling site must be located at the outlet of the control device.
	ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B ^b of 40 CFR part 60, appendix A or ASTM Method D6522-00(2005) ^a .	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for VOC concentration.	
	iii. Determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60.		
	iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see §60.17).	(c) Measurements to determine moisture must be made at the same time as the measurement for VOC concentration.	
	v. Measure VOC at the exhaust of the stationary internal combustion engine.	(5) Methods 25A and 18 of 40 CFR part 60, appendix A, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 or 40 CFR part 60, appendix A, ^{cd} Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 (incorporated by reference, see §60.17).	(d) Results of this test consist of the average of the three 1-hour or longer runs.	

^aASTM D6522-00 is incorporated by reference; see 40 CFR 60.17. Also, you may petition the Administrator for approval to use alternative methods for portable analyzer.

^bYou may use ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, for measuring the O₂ content of the exhaust gas as an alternative to EPA Method 3B.

^cYou may use EPA Method 18 of 40 CFR part 60, appendix A, provided that you conduct an adequate presurvey test prior to the emissions test, such as the one described in OTM 11 on EPA's Web site (<http://www.epa.gov/ttn/emc/prelim/otm11.pdf>).

^dYou may use ASTM D6420-99 (2004), Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry as an alternative to EPA Method 18 for measuring total nonmethane organic.

- (b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR 60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.
- (c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.
- (d) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 1 of this permit condition:

$$ER = (C_d \times 1.912 \times 10^{-3} \times Q \times T) / \text{HP-hr} \text{ (Eq. 1)}$$

Where:

ER = Emission rate of NO_x in g/HP-hr.

C_d = Measured NO_x concentration in parts per million by volume (ppmv).

1.912×10⁻³ = Conversion constant for ppm NO_x to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

- (e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this permit condition:

$$ER = (C_d \times 1.164 \times 10^{-3} \times Q \times T) / \text{HP-hr} \text{ (Eq. 2)}$$

Where:

ER = Emission rate of CO in g/HP-hr.

C_d = Measured CO concentration in ppmv.

1.164×10⁻³ = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

- (f) For purposes of Subpart JJJJ, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this permit condition:

$$ER = (C_d \times 1.833 \times 10^{-3} \times Q \times T) / \text{HP-hr} \quad (\text{Eq. 3})$$

Where:

ER = Emission rate of VOC in g/HP-hr.

C_d = VOC concentration measured as propane in ppmv.

1.833×10⁻³ = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

- (g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this permit condition. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this permit condition.

$$RF_i = C_{Mi} / C_{Ai} \quad (\text{Eq. 4})$$

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

C_{Mi} = Measured concentration of compound i in ppmv as carbon.

C_{Ai} = True concentration of compound i in ppmv as carbon.

$$C_{icorr} = RF_i \times C_{imeas} \quad (\text{Eq. 5})$$

Where:

C_{icorr} = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

RF_i = Response factor of compound i when measured with EPA Method 25A.

C_{imeas} = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{Peq} = 0.6098 \times C_{icorr} \quad (\text{Eq. 6})$$

Where:

C_{Peq} = Concentration of compound i in mg of propane equivalent per DSCM.

C_{icorr} = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

[40 CFR 60.4244]

Monitoring and Recordkeeping Requirements

13. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Calculate NMOC Emission Rate, NMOC less than 50 megagrams

In accordance with 40 CFR 60.752(b), when the landfill design capacity becomes equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, the permittee shall either comply with 40 CFR 60.752(b)(2) or calculate an NMOC emission rate for the landfill using the procedures specified in 40 CFR 60.754. In accordance with 40 CFR 60.752(b)(1)(ii), the NMOC emission rate shall be recalculated annually using the procedures specified in 40 CFR 60.754(a)(1) until such time as the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, or the landfill is closed.

[40 CFR 60.752(b)]

Reporting Requirements

14. Tier I Operating Permit Application

In accordance with IDAPA 58.01.01.313.01.b, IDAPA 58.01.01.859.04, and 40 CFR 60.752(b), the permittee shall submit a complete application to DEQ for an initial Tier I operating permit within 12 months of becoming a Tier I source.

[IDAPA 58.01.01.313.01.b, IDAPA 58.01.01.859.04, and 40 CFR 60.752(b)]

15. Reporting Schedule

In accordance with IDAPA 58.01.01.860.06, all owners or operators of landfills subject to Section 860 that have a nonmethane organic compound emission rate fifty (50) Mg/yr or greater as specified in 40 CFR Section 60.752(b)(2) shall submit a collection and control system design plan within one (1) year of the date of the first Annual Emission Rate Report showing that the nonmethane organic compound emission rate is fifty (50) Mg/yr or greater as specified in 40 CFR Section 60.752(b)(2).

[IDAPA 58.01.01.860.06]

16. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Amended Design Capacity Report

In accordance with 40 CFR 60.757(a)(3), an amended design capacity report shall be submitted to the Department providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to or above 2.5 million megagrams and 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in 40 CFR 60.758(f).

[40 CFR 60.757(a)(3)]

17. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – NMOC Emission Rate Reports

In accordance with 40 CFR 60.757(b), the permittee shall submit an NMOC emission rate report to the Department initially and annually thereafter, except as provided for in paragraphs (1)(ii) or (3) of this permit condition. The Department may request such additional information as may be necessary to verify the reported NMOC emission rate.

- (1) The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in 40 CFR 60.754(a) or (b), as applicable.

- (i) The initial NMOC emission rate report may be combined with the initial design capacity report required in this permit and shall be submitted no later than indicated in paragraphs (1)(i)(A) and (B) of this permit condition. Subsequent NMOC emission rate reports shall be submitted annually thereafter, except as provided for in 40 CFR 60.757 (b)(1)(ii) and (b)(3).
 - (A) June 10, 1996, for landfills that commenced construction, modification, or reconstruction on or after May 30, 1991, but before March 12, 1996, or
 - (B) Ninety days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction on or after March 12, 1996.
- (ii) If the estimated NMOC emission rate as reported in the annual report to the Department is less than 50 megagrams per year in each of the next 5 consecutive years, the owner or operator may elect to submit an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. This estimate shall include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based shall be provided to the Department. This estimate shall be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate shall be submitted to the Department. The revised estimate shall cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.
- (2) The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions.
- (3) Each owner or operator subject to the requirements of Subpart WWW is exempted from the requirements of paragraphs (1) and (2) of this permit condition, after the installation of a collection and control system in compliance with 40 CFR 60.752(b)(2), during such time as the collection and control system is in operation and in compliance with 40 CFR 60.753 and 60.755.

[40 CFR 60.757(b)]

18. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Reporting Requirements for Collection and Control System Required by 40 CFR 60.752(b)(2)

In accordance with 40 CFR 60.757(c), if the permittee is subject to the provisions of 40 CFR 60.752(b)(2), the permittee shall comply with the reporting provisions in 40 CFR 60.757(c).

[40 CFR 60.757(c)]

19. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Landfill Closure

In accordance with 40 CFR 60.757(d), each owner or operator of a controlled landfill shall submit a closure report to the Department within 30 days of waste acceptance cessation.

[40 CFR 60.757(d)]

20. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Equipment Removal Report

In accordance with 40 CFR 60.757(e), each owner or operator of a controlled landfill shall submit an equipment removal report to the Department 30 days prior to removal or cessation of operation of the control equipment.

[40 CFR 60.757(e)]

21. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Active Collection System Reporting

In accordance with 40 CFR 60.757(f), each owner or operator of a landfill seeking to comply with 40 CFR 60.752(b)(2) using an active collection system designed in accordance with 40 CFR 60.752(b)(2)(ii) shall submit to the Department annual reports of the recorded information in 40 CFR 60.757(f)(1) through (f)(6).

[40 CFR 60.757(f)]

In accordance with 40 CFR 63.1980(a), the permittee must submit the annual report described in 40 CFR 60.757(f) every 6 months.

[40 CFR 63.1980(a)]

22. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Initial Performance Test Report

In accordance with 40 CFR 60.757(g), each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(iii) shall include the information listed in 40 CFR 60.757(g) with the initial performance test report required under 40 CFR 60.8.

[40 CFR 60.757(g)]

23. NSPS 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills – Recordkeeping Requirements

In accordance with 40 CFR 60.758,

- (a) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of 40 CFR 60.752(b) shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report which triggered 40 CFR 60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.
- (b) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in 40 CFR 60.758 (b)(1) through (b)(4) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal.
- (c) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill subject to the provisions of 40 CFR Subpart WWW shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.756 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

- (1) The following constitute exceedances that shall be recorded and reported under 40 CFR 60.757(f):

For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28 °C below the average combustion temperature during the most recent performance test at which compliance with 40 CFR 60.752(b)(2)(iii) was determined.
- (2) Each owner or operator subject to the provisions of Subpart WWW shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.756.
- (3) Each owner or operator seeking to comply with the provisions of Subpart WWW by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under 40 CFR 60.756(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.
- (d) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of Subpart WWW shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.
 - (1) Each owner or operator subject to the provisions of Subpart WWW shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.755(b).
 - (2) Each owner or operator subject to the provisions of Subpart WWW shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in 40 CFR 60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in 40 CFR 60.759(a)(3)(ii).
- (e) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of Subpart WWW shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 40 CFR 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
- (f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of “design capacity”, shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

[40 CFR 60.758]

24. NESHAPS 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills – SSM Plan

In accordance with 40 CFR 63.1960, if the permittee is required by NSPS subpart WWW to install a collection and control system, the permittee must develop a written startup, shutdown, and malfunction (SSM) plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site.

[40 CFR 63.1960]

25. NESHAPS 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills – General Provisions and Table 1

In accordance with 40 CFR 63.1980(b), the permittee must also keep records and reports as specified in the general provisions of 40 CFR part 60 and Table 1 of 40 CFR 63 subpart AAAA.. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.

[40 CFR 63.1980(b)]

26. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Recordkeeping and Reporting

In accordance with 40 CFR 60.4245(a), owners and operators of all stationary SI ICE must keep records of the information in paragraphs (1) through (4) of this permit condition.

- (1) All notifications submitted to comply with Subpart JJJJ and all documentation supporting any notification.
- (2) Maintenance conducted on the engine.
- (3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.
- (4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

[40 CFR 60.4245(a)]

27. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Recordkeeping and Reporting for Non-Certified Engines

In accordance with 40 CFR 60.4245(c), owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231 must submit an initial notification as required in 40 CFR 60.7(a)(1). The notification must include the information in paragraphs (1) through (5) of this permit condition.

- (1) Name and address of the owner or operator;
- (2) The address of the affected source;
- (3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
- (4) Emission control equipment; and
- (5) Fuel used.

[40 CFR 60.4245(c)]

28. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Performance Testing Reporting

In accordance with 40 CFR 60.4245(d), owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in the performance testing requirement section of this PTC within 60 days after the test has been completed.

[40 CFR 60.4245(d)]

29. Notification and Reporting Addresses

Any notifications or reporting required by 40 CFR 60 Subpart JJJJ, Subpart WWW, and 40 CFR 63 Subpart AAAA shall be submitted to both of the following addresses:

EPA Region 10
Director, Office of Air Quality
1200 Sixth Avenue
(OAQ-107)
Seattle, WA 98101

And,

All information:
only:

Air Quality Permit Compliance
Department of Environmental Quality
Pocatello Regional Office
444 Hospital Way No. 300
Pocatello, ID 83201
(208) 236-6160

Performance test related information

Air Quality Source Test Review
Department of Environmental Quality
State Office
1410 N. Hilton St.
Boise, ID 83706
(208) 373-0502

[40 CFR 60 Subpart JJJJ, Subpart WWW, and 40 CFR 63 Subpart AAAA]

PERMIT TO CONSTRUCT GENERAL PROVISIONS

General Compliance

30. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.
- [Idaho Code §39-101, et seq.]**
31. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
- [IDAPA 58.01.01.211, 5/1/94]**
32. Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules and regulations.
- [IDAPA 58.01.01.212.01, 5/1/94]**

Inspection and Entry

33. Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:
- Enter upon the permittee's premises where an emissions source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;
 - Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
 - Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.
- [Idaho Code §39-108]**

Construction and Operation Notification

34. The permittee shall furnish DEQ written notifications as follows in accordance with IDAPA 58.01.01.211:
- A notification of the date of initiation of construction, within five working days after occurrence;
 - A notification of the date of any suspension of construction, if such suspension lasts for one year or more;

- A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date;
- A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and
- A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211, 5/1/94]

Performance Testing

35. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ, at its option, may have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.
36. All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.
37. Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

Monitoring and Recordkeeping

38. The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Records of monitoring information shall include, but not be limited to the following: (a) the date, place, and times of sampling or measurements; (b) the date 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 existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/94]

Excess Emissions

39. The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

[IDAPA 58.01.01.130-136, 4/5/00]

Certification

40. All documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

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

[IDAPA 58.01.01.125, 3/23/98]

Tampering

42. No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Transferability

43. This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/06]

Severability

44. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[IDAPA 58.01.01.211, 5/1/94]

End PTC

Attachment 2

Unbound Equipment-Specific Application Forms

DEQ Form CSTI : Cover Sheet

DEQ Form GI : Facility Information

DEQ Form EU0 : Flare F1-- General Emissions Units

Backup Calcs : K3 From PTC EX 8-2A R1 SO2 EMISSIONS

Backup Calcs : K3 From PTC EX 8-2C R1 Flare Emissions

DEQ Form EU1 : Industrial Engine Information

Backup Data : Cat 3516 Displacement

Backup Data : PTC EX 8-2B Caterpillar Spec Sheet

DEQ Form EI-CP1 (Criteria Emissions Point Sources)

**Backup Calcs : From PTC EX 8-2 R1 CRITERIA POLLUTANT
EMISSIONS – ENGINE**

Backup Calcs : From PTC EX 8-5 R1 NAAQS Criteria Emissions

DEQ Form EI-CP2 (Criteria Emissions – Fugitive Sources)

(Not Applicable)

DEQ Form EI-CP3 (Criteria Emissions Increase – Point Sources)

DEQ Form EI-CP4 (Criteria Emissions Increase – Fugitive Sources)

(Not Applicable)

DEQ Form FRA (Federal Requirements Applicability)

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Plastic Jacket

**Unbound
Equipment-Specific
Application Forms**



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

Cover Sheet for Air Permit Application – Tier I **Form CSTI**

Revision 5
 08/28/08

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

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	Bannock County Solid Waste Department		
2. Facility Name	Ft. Hall Mine Road Landfill, Bannock County, ID	3. Facility ID No.	005-00062
4. Brief Project Description - One sentence or less	Municipal Solid Waste Landfill gas collection system with open flare and spark-ignition internal combustion engine		

PERMIT APPLICATION TYPE

5. Initial Tier I Tier I Administrative Amendment Tier I Minor Modification Tier I Significant Modification
 Tier I Renewal: Permit No.: _____ Date Issued: _____

FORMS INCLUDED

Include	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form CSTI – Cover Sheet	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU1– Industrial Engine Information Please specify number of EU1s attached: <u>1</u>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2– Nonmetallic Mineral Processing Plants Please specify number of EU2s attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU3– Spray Paint Booth Information Please specify number of EU3s attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4– Cooling Tower Information Please specify number of EU4s attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU5 – Boiler Information Please specify number of EU5s attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP– Concrete Batch Plant Please Specify number of CBPs attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant Please specify number of HMAPs attached:	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERF – Portable Equipment Relocation Form	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form BCE– Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE– Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form VSCE – Venturi Scrubber Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form ESP – Electrostatic Precipitator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form AO – Afterburner/Oxidizer	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CYS – Cyclone Separator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CA – Carbon Adsorber	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Forms EI-CP1 - EI-CP4– Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CAM – Compliance Assurance Monitoring	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>



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

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

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

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

IDENTIFICATION

1. Company Name		2. Facility Name:	
Bannock County Solid Waste Dept,		Ft. Hall Mine Road Landfill, Bannock County, ID	
3. Brief Project Description:		Municipal Solid Waste Landfill, with landfill gas collection system, flare, and engine/generator tied to commercial electric grid.	

FACILITY INFORMATION

4. Primary Facility Permit Contact Person/Title	Therese Marchetti	Manager, Bannock Cty Solid Waste Dept	
5. Telephone Number and Email Address	(208) 236-0607	theresem@bannockcounty.us	
6. Alternate Facility Contact Person/Title	Norman R. Ricks	Consultant, Permit Lead	
7. Telephone Number and Email Address	cell (505) 217-4670	nrricks@energysolutions.com	
8. Address to Which the Permit Should be Sent	1500 North Fort Hall Mine Road		
9. City/County/State/Zip Code	Pocatello	Bannock	ID 83204
10. Equipment Location Address (if different than the mailing address above)	same		
11. City/County/State/Zip Code			
12. Is the Equipment Portable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
13. SIC Code(s) and NAICS Code	Primary SIC: 4953	Secondary SIC:	NAICS: 562212
14. Brief Business Description and Principal Product	Municipal Solid Waste Landfill; waste disposal		
15. Identify any adjacent or contiguous facility that this company owns and/or operates	None		

16. Specify the reason for the application	<input type="checkbox"/> Permit to Construct (PTC)		
	<div style="border: 1px solid black; padding: 5px;"> <p>For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit.</p> <p><input type="checkbox"/> Incorporate the PTC at the time of the Tier I renewal</p> <p><input type="checkbox"/> Co-process the Tier I modification and PTC</p> <p><input type="checkbox"/> Administratively amend the Tier I permit to incorporate the PTC upon your request (IDAPA 58.01.01.209.05.a, b, or c)</p> </div> <p><input checked="" type="checkbox"/> Tier I Permit</p> <p><input type="checkbox"/> Tier II Permit</p> <p><input type="checkbox"/> Tier II/Permit to Construct</p>		

CERTIFICATION

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

17. Responsible Official's Name/Title	Therese Marchetti	Manager, Bannock Cty Solid Waste Dept	
18. Responsible Official's Signature	<i>Therese Marchetti</i>	Date:	11-8-10
19. <input checked="" type="checkbox"/> Check here to indicate that you would like to review the draft permit prior to final issuance.			



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

IDENTIFICATION		
1. Company Name: Bannock County Solid Waste Department	2. Facility Name: Ft. Hall Mine Road Landfill, Bannock County	3. Facility ID No: 005-00062
4. Brief Project Description: Solid Waste Landfill with gas collection system, open flare, and internal combustion engine/generator		

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION	
5. Emissions Unit (EU) Name:	LANDFILL GAS
6. EU ID Number:	G1
7. EU Type:	<input checked="" type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: Date Issued:
8. Manufacturer:	CMI ENERGY, LLC.
9. Model:	FA2-1500 OPEN CANDLE FLARE
10.. Maximum Capacity:	1500 CFM
11. Date of Construction:	PENDING
12. Date of Modification (if any):	N/A
13. Is this a Controlled Emission Unit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT													
14. Control Equipment Name and ID:	LANDFILL GAS FLARE F1												
15. Date of Installation:	pending 16. Date of Modification (if any): n/a												
17. Manufacturer and Model Number:	CMI ENERGY LLC FA2-1500 Open Candle Flare												
18. ID(s) of Emission Unit Controlled:	G1 LANDFILL GAS COLLECTION MANIFOLD												
19. Is operating schedule different than emission units(s) involved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
20. Does the manufacturer guarantee the control efficiency of the control equipment?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)												
	Pollutant Controlled												
	<table border="1"> <thead> <tr> <th>PM</th> <th>PM10</th> <th>SO₂</th> <th>NO_x</th> <th>VOC</th> <th>CO</th> </tr> </thead> <tbody> <tr> <td></td> <td>0.02735 g/sec</td> <td>0.02293 g/sec</td> <td>0.07252 g/sec</td> <td>>98% NMOC</td> <td>0.084705 g/sec</td> </tr> </tbody> </table>	PM	PM10	SO ₂	NO _x	VOC	CO		0.02735 g/sec	0.02293 g/sec	0.07252 g/sec	>98% NMOC	0.084705 g/sec
PM	PM10	SO ₂	NO _x	VOC	CO								
	0.02735 g/sec	0.02293 g/sec	0.07252 g/sec	>98% NMOC	0.084705 g/sec								
Control Efficiency													

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. Ref: AP-42 5th Ed.DRAFT Table 2.4-4

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)	
22. Actual Operation:	8760 HRS/YEAR
23. Maximum Operation:	8760 HRS/YEAR

REQUESTED LIMITS	
24. Are you requesting any permit limits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If Yes, indicate all that apply below)
<input type="checkbox"/> Operation Hour Limit(s):	
<input type="checkbox"/> Production Limit(s):	
<input type="checkbox"/> Material Usage Limit(s):	
<input type="checkbox"/> Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
<input type="checkbox"/> Other:	
25. Rationale for Requesting the Limit(s):	N/A

SO2 EMISSIONS
ENGINE OR FLARE

Sulfur-Containing-Compounds										
Note: This methodology used as a check on Reduced Sulfur Compound Methodology, below										
	CAS	Published Mol Wt	Abundance in LFG, (ppmv)	Calculated Mol Wt	Sulfur Mol Wt.in Molecule	Element	Atomic Wt.			
Methanethiol (Methyl mercaptan)	74931	48.11	1.37E+00	47.095	32.06	S	32.06	1		
Hydrogen sulfide	7783064	34.08	3.20E+01	34.076	32.06	C	12.011	1		
Ethyl mercaptan (Ethanethiol)	75081	62.14	1.98E-01	62.13	32.06	H	1.008	1		
Ethyl methyl sulfide	624895	76.16	3.67E-02	76.157	32.06	O	15.9994	1		
Diethyl sulfide	352932	90.19	8.62E-02	90.184	32.06			1		
Dimethyl disulfide	624920	94.2	1.37E-01	94.19	64.12	Temp C		2	25	
Dimethyl sulfide	75183	62.14	5.66E+00	62.13	32.06	Collection Efficiency %		1	75	
Carbonyl sulfide (Carbon oxysulfide) c	463581	60.08	1.22E-01	60.0704	32.06			1		
Carbon disulfide c	75150	76.14	1.47E-01	76.131	64.12			2		
Reduced Sulfur Compounds										
		Sulfur in Molecule Mol Wt	Abundance in LFG, (ppmv)	[AP-42 Chap 2.4 p7 Equation 3]	[AP-42 Chap 2.4 p7 Equation 4]					
	CAS			Qrscp	UMrscp					
Methanethiol (Methyl mercaptan)	74931	32.06	1.37E+00	9.9378	1.30E+01	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Hydrogen sulfide	7783064	32.06	3.20E+01	232.1249	3.04E+02	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Ethyl mercaptan (Ethanethiol)	75081	32.06	1.98E-01	1.4363	1.88E+00	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Ethyl methyl sulfide	624895	32.06	3.67E-02	0.2662	3.49E-01	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Diethyl sulfide	352932	32.06	8.62E-02	0.6253	8.20E-01	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Dimethyl disulfide	624920	64.12	1.37E-01	0.9938	2.61E+00	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Dimethyl sulfide	75183	32.06	5.66E+00	41.0571	5.38E+01	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Carbonyl sulfide (Carbon oxysulfide) c	463581	32.06	1.22E-01	0.8850	1.16E+00	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Carbon disulfide c	75150	64.12	1.47E-01	1.0663	2.80E+00	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
Q rsc terms in FRONT of Equation =	7.2539			UM rsc =	3.81E+02	kg/yr	Uncontrolled Mass Emissions of RSCs as Sulfur			
UM rsc p terms in FRONT of Equation =	4.09E-02									
				[AP-42 Chap 2.4 p10 Equation 7]						
				CM SO2 =	571.262 kg/yr	Controlled Mass Emissions of Sulfur Dioxide				
					0.144 lbs/hr					
					0.01810246 g/sec					

Source: PTC EXHIBIT 8-2C R1

**Fort Hall Mine Road Landfill
Criteria Pollutant Emission Rates from Source: PTC Emission Factors
OPEN FLARE**

EPA Emission Factors from AP-42 5th Ed DRAFT Table 2.4-4									
Flare LFG Flow:	827.52 m3/hr	487.05 cfm	8.12 cfs	298 K	Total LFG				
PV/T=C			26.59 cfs	973 K	7254000 m3/yr				
	76.18 ft/sec, after expansion				at max production yr				
	23.22 m/sec, after expansion				Flare is sized to max LFG flow, after expansion = 1500 CFM				
Flare (50100410 and 50300601)	Kg/1.0E6 dscm CH4	g/m3	at	413.8 m3 CH4 / hr	(50% of LFG as CH4)				
NO2	631	0.631		261 g/hr	0.072523 g/sec				
SO2	[Controlled Emission -- See EXHIBIT 8-2A]				0.02293 g/sec				
PM-10	238	0.238		98 g/hr	0.027354 g/sec				
	Note: Because engine-specific particulate emissions data are not available, this AP-42 factor is used in the modeling.								
CO	737	0.737		305 g/hr	0.084705 g/sec				
Pb	[No lead is known as a LFG constituent]				0.00 g/sec				
Flame Temperature: Straitz, J. F. "Flaring for Gaseous Control in the Petroleum Industry" 71st Annual APCA Meeting, Houston, June, 1978									
	1295 F =	701.7 C =		975 K					
Initial LFG Temp (C)	25 or =			298 K					
Final LFG Temp C, say	700 or =			974 K					
Using USAF Skew-T, Log P diagram for "Standard Atmosphere"									
	5000 ft MSL occurs at 42 F and 845 mb pressure								
	or at								
845	x	x=		634 mm Hg					
1013.2		760							
Using Nomogram p 12-3 of Solution of "Perfect Gas Law", Sheehy, et al 1976									
	at 634 mm Hg, and initial gas temp of 298K, 1 mole gas occu			29 L					
	at 634 mm Hg, and final gas temp of 973K, 1 mole gas occu			95 L					
	An expansion factor of			3.28					
Heat Release									
LFG is	545 btu/scf	LFG flow is	487.05 cfm	or	265442.25 btu/min				
					1,114,857 cal/sec				



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

IDENTIFICATION				
1. Company Name: Bannock County Solid Waste Dept.		2. Facility Name: Ft. Hall Mine Road Landfill		
3. Brief Project Description:		Solid Waste Landfill with gas collection system, flare, and IC engine/electrical generator		
ENGINE (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS				
4. Type of Unit:		<input checked="" type="checkbox"/> New Unit <input type="checkbox"/> Unpermitted Existing Unit <input type="checkbox"/> Modification to a Unit with Permit #: Date Issued:		
5. Engine Displacement:		4.3125 (liters per cylinder)	6. Ignition Type: <input type="checkbox"/> Compression <input checked="" type="checkbox"/> Spark	
7. Use		<input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Non-Emergency		
8. Engine ID Number: Pending		9. Maximum Rated Engine Power: <u>1148</u> Brake Horsepower (bhp)		
10. Construction Date: Pending		11. Manufacturer: Caterpillar	12. Model: G3516LE 1148 max hp	13. Model Year: 2010
14. Date of Modification (if applicable): n/a		15. Serial Number (if available): Pending	16. Control Device (if any): None	
FUEL DESCRIPTION AND SPECIFICATIONS				
17. Fuel Type	<input type="checkbox"/> Diesel Fuel (#) (gal/hr)	<input type="checkbox"/> Gasoline Fuel (gal/hr)	<input type="checkbox"/> Natural Gas (cf/hr)	<input checked="" type="checkbox"/> Other Fuels (unit:BTU/hp-hr)
18. Full Load Consumption Rate	N/A	N/A	N/A	7897
19. Actual Consumption Rate	N/A	N/A	N/A	8144
20. Sulfur Content wt%	N/A	N/A	N/A	0.00435 %
OPERATING LIMITS & SCHEDULE				
21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.): 8760 hours/year				
22. Operating Schedule (hours/day, months/year, etc.): 24 Hours/day, 365 days/year				

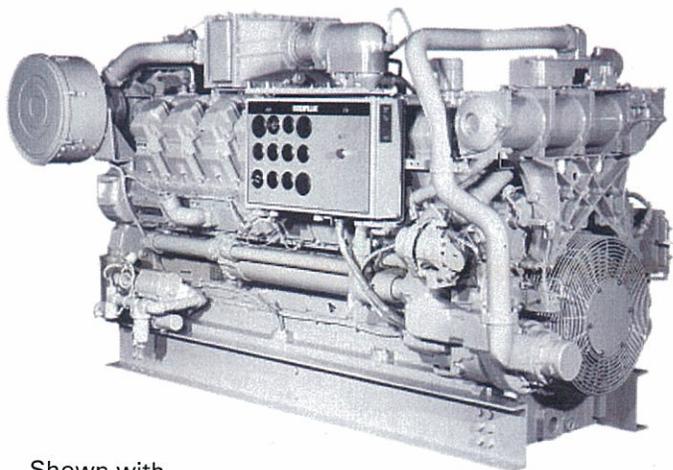
CATERPILLAR®

Gas Industrial Engine

G3516

660-1340 hp

Standard and Low Emission



Shown with
Optional Equipment

SPECIFICATIONS

V-16, 4-Stroke-Cycle, Spark Ignited		
Bore—in (mm)	6.7 (170)	
Stroke—in (mm).....	7.5 (190)	
Displacement—cu in (L).....	4211 (69.0)	
Compression Ratio		
STD	9:1	
LE	8:1	
Aspiration		Naturally Aspirated or Turbocharged-Aftercooled
Lube Oil Capacity — gal (L)		
STD*	153 (580)	
STD**	171 (646)	
LE	106 (402)	
Jacket Water System — gal (L)		
Capacity w/o Radiator	53 (205)	

* Oil fill capacity with 21 elements

**Oil fill capacity without elements



FEATURES

■ DIESEL STRENGTH

All Caterpillar® gas engines are built on diesel frames which means greater service life. Caterpillar gas engines inherit more from their diesel counterparts than just strength. They are backed by the same support system recognized as one of the most sophisticated and dependable in the world.

■ APPLICATION FLEXIBILITY

Broad operating speed range and ability to burn a wide spectrum of gaseous fuels.

■ LOW EMISSIONS

Low emission engines are capable of NO(x) levels as low as 2.0 grams/hp-hr. Lower emissions may be achievable for selected applications. Consult your Caterpillar dealer.

■ CATERPILLAR® GAS ENGINES

Represent the latest technology in engine design. Engines are offered in both naturally aspirated and turbocharged/aftercooled configurations.

TA is offered as standard and low emission. These different configurations offer:

- High energy ignition systems for consistent firing
- High efficient combustion chamber for complete burning of the fuel.
- Modern component design such as deep cup, oil gallery piston.

■ ELECTRONIC IGNITION SYSTEM WITH DETONATION SENSITIVE TIMING

The Caterpillar electronic ignition system provides optimized spark timing for all operating conditions. Timing is automatically controlled to maintain continuous detonation protection.

Engine Speed (rpm)	1200	Fuel	LANDFILL
Compression Ratio	11.0:1	LHV of Fuel (Btu/SCF)	545
Aftercooler Inlet Temperature (°F)	130	Fuel System	LPG IMPCO
Jacket Water Outlet Temperature (°F)	230		
Ignition System	EIS	Minimum Fuel Pressure (psig)	1.5
Exhaust Manifold	WATER COOLED	Methane Number at Conditions Shown	130
Combustion System Type	LOW EMISSION	Rated Altitude (ft)	2500

at 77°F Design Temperature

Engine Rating Data

	% Load	100%	75%	50%
Engine Power (w/o fan)	bhp	1148	861	574
Generator Set Power (w/o fan)	kW	815	611	408

Engine Data

Specific Fuel Consumption (BSFC) (1)	Btu/bhp-hr	7897	8144	8911
Air Flow (Wet, @ 77°F, 28.8 in Hg)	SCFM	2097	1433	936
Air Mass Flow (Wet)	lb/hr	9300	6352	4150
Compressor Out Pressure	in. HG (abs)	67	60.9	45.8
Compressor Out Temperature	°F	290	253	183
Inlet Manifold Pressure	in. HG (abs)	62.6	45.5	31.3
Inlet Manifold Temperature (10)	°F	149	147	149
Timing (11)	°BTDC	20	20	20
Exhaust Stack Temperature	°F	847	865	887
Exhaust Gas Flow (Wet, @ stack temperature, 29.7 in Hg)	CFM	6035	4244	2851
Exhaust Gas Mass Flow (Wet)	lb/hr	10495	7280	4812

Engine Emissions Data

Nitrous Oxides (NOx as NO ₂) (9)	g/bhp-hr	2.0	6.0	8.8
(Corr. 15% O ₂)	ppm	143	426	561
Carbon Monoxide (CO) (9)	g/bhp-hr	3.0	3.2	3.0
(Corr. 15% O ₂)	ppm	352	374	310
Total Hydrocarbons (THC) (9)	g/bhp-hr	2.7	2.0	2.1
(Corr. 15% O ₂)	ppm	551	407	385
Non-Methane Hydrocarbons (NMHC) (9)	g/bhp-hr	0.40	0.30	0.32
(Corr. 15% O ₂)	ppm	34	23	19
Exhaust Oxygen (9)	%	6.3	4.9	2.9
Lambda		1.31	1.16	1.06

Engine Heat Balance Data

Input Energy LHV (1)	Btu/min	151085	116858	85242
Work Output	Btu/min	48703	36527	24351
Heat Rejection to Jacket (2) (6)	Btu/min	42129	36469	30533
Heat Rejection to Atmosphere (Radiated) (4)	Btu/min	5225	4355	3484
Heat Rejection to Lube Oil (5)	Btu/min	8813	7629	6387
Total Heat Rejection to Exhaust (to 77°F) (2)	Btu/min	39689	28320	19478
Heat Rejection to Exhaust (LHV to 350°F) (2)	Btu/min	24766	18075	12597
Heat Rejection to Aftercooler - stage 1 (3) (7) (8)	Btu/min	6525	3558	1009

**NAAQS CRITERIA
POLLUTANT EMISSIONS --
ENGINE**

Landfill LFG Generation (at max year = 2031)		487.0 scfm			
7,254,000 m3/yr	827.5 m3/hr	29223 scf/hr	15,926,469 BTU/hr from available LFG		
			1956 bhp available from LFG at max year		
Note: This panel for comparison power rating at 75%.					
CAT G3516LE Engine Performance Specifications					
Engine Power Rating (at 75%)=	861 BHP	Derated to	784 BHP	6,380,905 BTU/hr	
(Source : EX 8-2B: Caterpillar "Gas Generator Set Engine Performance" sheet DM5153-00)					
De-Rate Factor at	5000 ft and	80 deg F =	0.91		
(Source : EX 8-2B: Caterpillar "Gas Generator Set Engine Performance" sheet DM5153-00, Page 2)					
LFG LHV	545 BTU/scf	11708 scf/hr	331.5 m3/hr		
Fuel Consumption	8144 BTU/bhp-hr	195 scfm			
at 75% load	g/ bhp-hr	at	784 bhp		% of AP-42
				tpy	
NOx	6	4701 g/hr	45.43	1.30585 g/sec	122.03%
CO	3.2	2507 g/hr	24.23	0.69645 g/sec	89.37%
THC	2	1567 g/hr		0.43528 g/sec	
NMHC [NMOC]	0.3	235 g/hr	2.27	0.06529 g/sec	
Exhaust O2	4.9				
lambda	1.16				
Note: Emission rates in Gray-Shaded cells are used in the modeling					
at max year	1602 Mg CH4	corresponds to	10.33 Mg NMOC		
	2401000 M3 CH4	corresponds to	2881 M3 NMOC		
	4302.374 Kg/1.0E6 dscm			2206.88	
(Source : LandGEM model "New Cell 4 0.02 100 600" for year 2031)					
For Comparison :					
at max year	818.2 Mg CH4	corresponds to	4.536 Mg NMOC		
	1226000 M3 CH4	corresponds to	1266 M3 NMOC		
	3699.837 Kg/1.0E6 dscm				
(Source : LandGEM model "Existing Cell 4 0.02 100 516" for year 2031)					
EPA Emission Factors from AP-42 5th Ed DRAFT Table 2.4-4					
Note: This panel is for comparison with the NOx and CO emissions calculated using engine-specific data					
IC Engine (50100421)	Kg/1.0E6 dscm	g/m3	at	331.5 m3/hr	
NO2	11620	11.62		3853 g/hr	1.070145 g/sec
SO2	[Controlled Emission – See EXHIBIT 8-2A]				0.010089 g/sec
PM-10	232	0.232		77 g/hr	0.021366 g/sec
Note: Because engine-specific particulate emissions data are not available, this AP-42 factor is used in the modeling.					
CO	8462	8.462		2806 g/hr	0.779309 g/sec
Pb	[No lead is known as a LFG constituent]				0.00 g/sec

Source: PTC EXHIBIT 8-5 R1

Bannock County
Fort Hall Mine Road Landfill

Criteria Pollutant Emission Rates vs Modeling Thresholds

FLARE (AS CONTROL DEVICE) EMISSIONS (100% Duty Cycle)										
NAAQS Criteria Pollutant	Emission Factor (source AP-42, Table 2.4-4) (kg/1.00E+6 dscm CH4)							Significant Emission Rates [Modeling Thresholds] (tpy)		
		g/sec		lb/hr					lbs/hr	
NO2	631	0.07253	0.575635	2288.6	lb/hr		2.5	tpy, vs	7	
			0.143670		lb/hr					
SO2	See AP-42 p2.4-10	0.0181025	880.7		Kg/yr, or		1.0	tpy, vs	7	
							1.0		3.9447	
									0.9	
			0.217095		lb/hr					
PM-10	238	0.027354	863.2		Kg/yr, or		0.952	tpy, vs	7	
							0.952		3.9447	
			0.672262		lb/hr				0.9	
CO	737	0.084705	2673.1		Kg/yr, or		2.9	tpy, vs	306.81	
									70	
Pb	not specified	0	0		lb/hr		0.0		0.6	
O3	not specified	n/a	#VALUE!		lb/hr		n / a		40	
									(of VOCs)	
BASIS	3,626,952	m3 CH4 / yr at 100% RH, 1 atmosphere, and 25 C CH4 at year of maximum LFG production from Current Cell A and Future Cell 4 (source: EX 7-6: LandGEM v302 see spreadsheet "CH4 by Cell by Yr")								
TOTAL NAAQS EMISSIONS (FLARE)							7.4	tpy		
INTERNAL COMBUSTION ENGINE (AS CONTROL DEVICE) EMISSIONS (100% Duty Cycle, 75% Power Rating)										
NAAQS Criteria Pollutant	Emission Factor Source: Exhibit 8-2 from Exhibit 8-2B								Significant Emission Rates [Modeling Thresholds] (tpy)	
		g/sec		lb/hr					lbs/hr	
NO2	6	1.305850	10.363889	41209.5	lb/hr		45.4	tpy, vs	7	
			0.063215		lb/hr					
SO2	See AP-42 p2.4-10 Source: Exhibit 8-2A	0.007965	251.4		Kg/yr, or		0.3	tpy, vs	7	
							0.3		3.9447	
									0.9	
			0.169572		lb/hr					
PM-10	232	0.021366	674.3		Kg/yr, or		0.7	tpy, vs	7	
							0.0		3.9447	
									0.9	
			5.527405		lb/hr					
CO	3.2	0.696453	21978.4		Kg/yr, or		24.2	tpy, vs	306.81	
									70	
Pb	n / a	0.000000	0		lb/hr		0.0		0.6	
			3.454627		lb/hr					
O3	2	0.435283	13736.5		Kg/yr, or		15.1	tpy, vs	40	
									(of VOCs)	
TOTAL NAAQS EMISSIONS (ENGINE)							85.8	tpy		



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

AIR PERMIT APPLICATION

Revision 6
 10/7/09

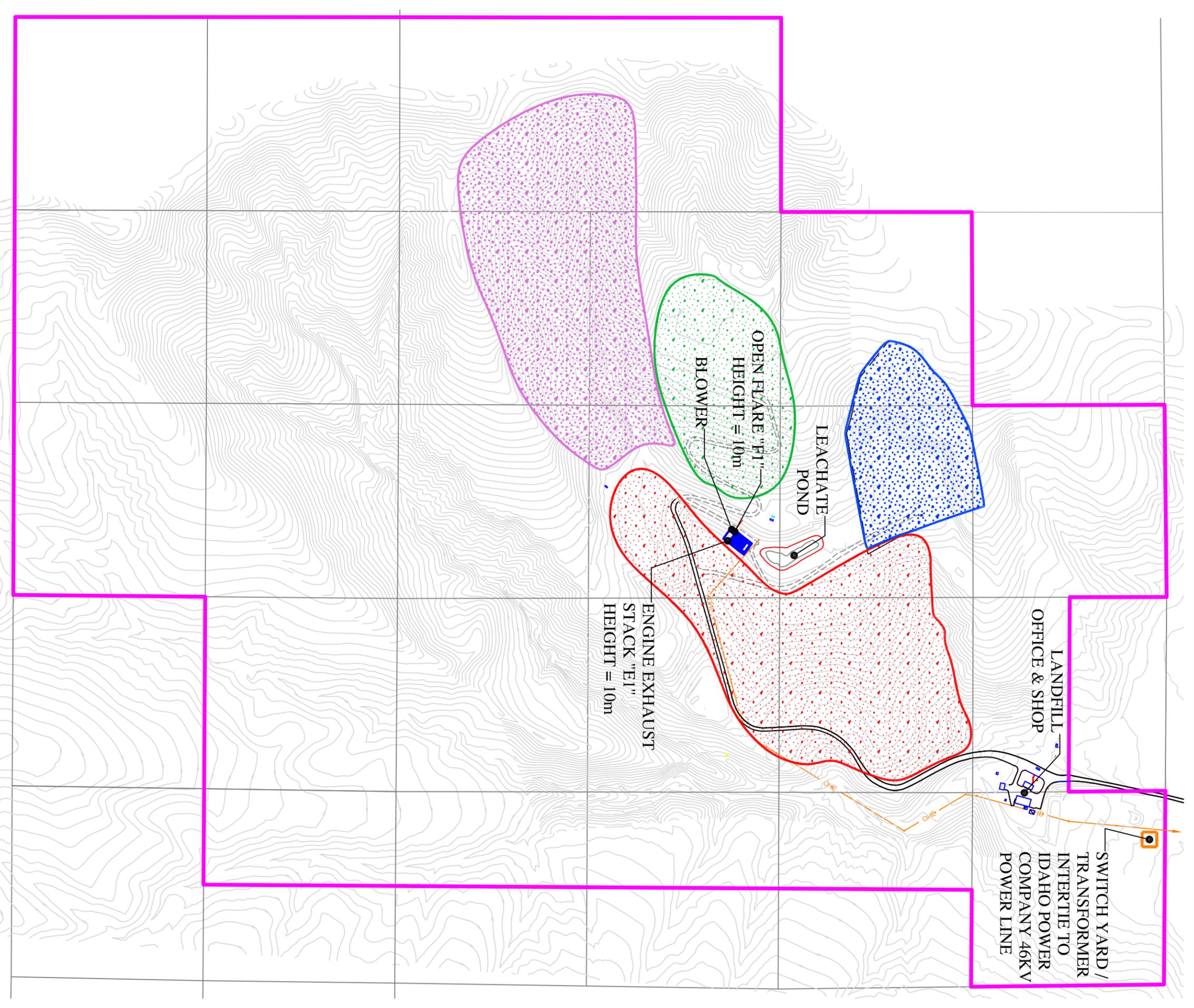
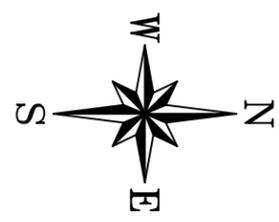
For each box in the table below, CTRL+click on the blue underlined text for instructions and information.

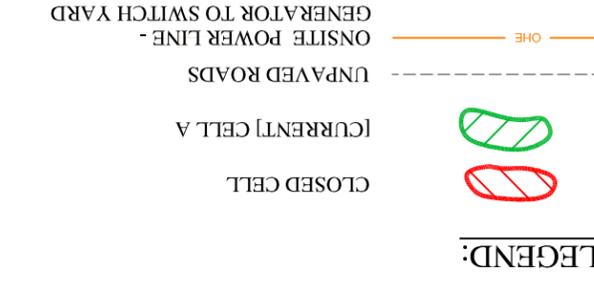
IDENTIFICATION	
1. Company Name: Bannock County Solid Waste Department	2. Facility Name: Ft. Hall Mine Road Landfill
3. Brief Project Description: Municipal Solid Waste Landfill gas extraction system, with open flare and spark-ignition internal combustion engine.	
APPLICABILITY DETERMINATION	
4. List applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). Examples of NSPS affected emissions units include internal combustion engines, boilers, turbines, etc. The applicant must thoroughly review the list of affected emissions units.	List of applicable subpart(s): Subpart JJJJ -- Stationary Spark Ignition Internal Combustion Engines Subpart WWW -- Municipal Solid Waste Landfills <input type="checkbox"/> Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR part 61 and 40 CFR part 63 . Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. EPA has a web page dedicated to NESHAP that should be useful to applicants.	List of applicable subpart(s): Subpart AAAA -- Municipal Solid Waste Landfills <input type="checkbox"/> Not Applicable
6. For each subpart identified above, conduct a complete a regulatory analysis using the instructions and referencing the example provided on the following pages. Note - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation applies. Regulatory reviews that are submitted with insufficient detail will be determined incomplete.	<input checked="" type="checkbox"/> A detailed regulatory review is provided (Follow instructions and example). <input type="checkbox"/> DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.
<p>IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT</p> <p><i>It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand what those requirements are <u>prior</u> to the application being submitted but that DEQ will not perform the required technical or regulatory analysis on the applicant's behalf.</i></p>	

Bannock County Solid Waste Department
 Figure 3-1: Landfill Site Plan

- LEGEND:**
- CLOSED CELL
 - [CURRENT] CELL A
 - [FUTURE] CELL 4
 - [FUTURE] CELL C & D
 - PROPERTY/FENCE LINE
 - POSITIVE ACCESS CONTROL BY PERIMETER FENCE THAT EXISTS ON ENTIRE PROPERTY BOUNDARY
 - PAVED ROADS
 - UNPAVED ROADS
 - ONSITE POWER LINE - GENERATOR TO SWITCH YARD

NOTES:
 THIS DRAWING WAS DEVELOPED FROM INFORMATION PROVIDED BY BANNOCK COUNTY AND BROWN & CALDWELL. THE INFORMATION PROVIDED FROM THESE SOURCES WAS DEVELOPED IN DIFFERENT TIME INTERVALS WITH VARYING COORDINATE SYSTEMS AND ELEVATION DATUM. THESE DRAWINGS ARE ILLUSTRATIVE AND NO FIELD SURVEYS WERE COMPLETED TO VERIFY THE ACCURACY OF THIS INFORMATION.





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