

## **Statement of Basis**

**Permit to Construct No. P-2009.0146  
Project ID 61559**

**Fort Hall Mine Road Landfill  
Pocatello, Idaho**

**Facility ID 005-00062**

**Final**

**January 7, 2016  
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Permit Writer**

Handwritten signature of D. Pampaian in black ink, consisting of a stylized 'D' followed by a period and a 'P' followed by a period.

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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## ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	CO <sub>2</sub> equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards

O&M	operation and maintenance
O <sub>2</sub>	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd <sup>3</sup>	cubic yards
µg/m <sup>3</sup>	micrograms per cubic meter

## **FACILITY INFORMATION**

### ***Description***

Bannock County operates the Fort Hall Mine Road Landfill, a municipal solid waste landfill. The landfill currently consists of two cells with a total capacity of 2,464,257 short tons (2,240,000 Mg). The original cell (Closed Cell, with a calculated capacity of 1,505,097 Mg, 1943 – 1993), was succeeded by the current cell, Cell A (with a calculated capacity of 1,160,000 mg, 1994 – 2013 (estimated)). A third cell, Cell 4, is planned to come on line in 2016, and will increase the landfill design capacity to 8,061,025 tons (7,310,000 Mg) at that time.

In 2010, Bannock County proposed to install a landfill gas (LFG) collection system at its Fort Hall Mine Road Landfill. Collected LFG was to be piped to an open flare and to a lean-burn Caterpillar model 3516 IC engine powering an electrical generator that is connected to the commercial power grid. The project to install the flare was completed in 2012. The project to install the IC engine was completed in 2014.

### ***Permitting History***

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

February 27, 2014	T1-2010.0155, Administrative Amendment to correct typographical errors in the Tier I operating permit issued January 17, 2014, Permit status (A)
January 17, 2014	T1-2010.0155, Administrative Amendment to correct typographical errors in the initial Tier I operating permit, Permit status (S)
July 18, 2013	T1-2010.0155, Initial Tier I permit, Permit status (S)
April 6, 2010	P-2009.0146, Initial permitting action to install and operate a landfill gas collection system, a flare, and a Caterpillar model 3516 IC engine powering an electrical generator, Permit status (A, but will become S upon issuance of this permit)

### ***Application Scope***

Permit P-2009.0146, issued in April 2010, authorized the installation of a Caterpillar model 3516 IC engine rated at 784 bhp. During the issuance of the Tier I permit in 2012-2013, at the request of the Permittee, DEQ added “or equivalent” to the Caterpillar 3516 Engine Section heading of the permit with no further definition of “or equivalent” being specified within the permit. The permittee then installed a Caterpillar model 3520C IC engine rated at 2,242 bhp in 2014. During a required source test on the IC engine in 2015 it was discovered that a different model IC engine with a higher power rating, with higher emissions, was installed at the facility than was originally applied for and permitted. After meeting with DEQ the Permittee agreed to apply to modify the current Permit to Construct to specify the Caterpillar model 3520C IC engine, as was installed at the facility, in the permit.

### ***Application Chronology***

July 27, 2015	DEQ received an application and an application fee.
August 18, 2015	DEQ determined that the application was complete.
October 8, 2015	DEQ made available the draft permit and statement of basis for peer and regional office review.
October 13, 2015	DEQ made available the draft permit and statement of basis for applicant review.
Nov. 10 – Dec. 10, 2015	DEQ provided a public comment period on the proposed action.
January 5, 2016	DEQ received the permit processing fee.
January 7, 2016	DEQ issued the final permit and statement of basis.

## TECHNICAL ANALYSIS

### Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
Landfill	<u>Landfill:</u> Closed Cell, Cell A, and Cell 4	Landfill Gas (LFG) Collection System w/ the gas routed to an IC Engine and/or a Flare	N/A
IC Engine	<u>IC Engine:</u> Manufacturer: Caterpillar Model: 3520C Manufacture Date: 2013 Maximum Power Rating: 2,242 bhp Fuel: Landfill gas	N/A	<u>IC Engine exhaust, E1:</u> Exit height: 32.8 ft (10.0 m) Exit diameter: 1.51 ft (0.46 m) Exit flow rate: 2,191.5 acfm Exit temperature: 139.7 °F (59.9 °C)
Flare	<u>Flare:</u> Maximum Rating: 15.92 MMBtu/hr Fuel: Landfill gas	N/A	<u>Flare, F1:</u> Exit height: 41.0 ft (12.5 m) Exit velocity: 38.1 ft/s (11.6 m/s) Exit temperature: 1,293.5 °F (700.9 °C)

### Emissions Inventories

#### Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the flare and the IC engine operations at the facility.

#### Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

The following table presents the pre-project potential to emit for all criteria pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff for the previous project, P-2009.0146 issued March 31, 2010.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM <sub>10</sub>		SO <sub>2</sub>		NO <sub>x</sub>		CO		VOC	
	lb/hr <sup>(a)</sup>	T/yr <sup>(b)</sup>								
Flare	0.22	0.95	0.14	0.6	0.58	2.52	0.67	2.95	0.19	0.82
IC Engine	0.17	0.74			10.36	45.43	5.53	24.23	0.52	2.27
<b>Pre-Project Totals</b>	<b>0.39</b>	<b>1.69</b>	<b>0.14</b>	<b>0.60</b>	<b>10.94</b>	<b>47.95</b>	<b>6.20</b>	<b>27.18</b>	<b>0.71</b>	<b>3.09</b>

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.  
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

**Post Project Potential to Emit**

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility’s classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria pollutants from all emissions units at the facility as determined by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

**Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS**

Source	PM <sub>10</sub>		SO <sub>2</sub>		NO <sub>x</sub>		CO		VOC	
	lb/hr <sup>(a)</sup>	T/yr <sup>(b)</sup>								
Flare	0.22	0.95	0.14	0.6	0.58	2.52	0.67	2.95	0.19	0.82
IC Engine	0.17	0.74			10.6	45.43	10.28	45.03	3.45	15.12
<b>Post Project Totals</b>	<b>0.39</b>	<b>1.69</b>	<b>0.14</b>	<b>0.60</b>	<b>11.18</b>	<b>47.95</b>	<b>10.95</b>	<b>47.98</b>	<b>3.64</b>	<b>15.94</b>

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
- b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

**Change in Potential to Emit**

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

**Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS**

Source	PM <sub>10</sub>		SO <sub>2</sub>		NO <sub>x</sub>		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	0.39	1.69	0.14	0.60	10.94	47.95	6.20	27.18	0.71	3.09
Post Project Potential to Emit	0.39	1.69	0.14	0.60	11.18	47.95	10.95	47.98	3.64	15.94
<b>Changes in Potential to Emit</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.24</b>	<b>0.00</b>	<b>4.75</b>	<b>20.80</b>	<b>2.93</b>	<b>12.85</b>

### **Non-Carcinogenic TAP Emissions**

There is no change in the estimated PTE for emissions of non-carcinogenic toxic air pollutants (TAP) for this project as TAP emissions were previously calculated by assuming the IC engine and flare combusted the maximum annual amount of gas generated by the landfill annually (7,254,000 m<sup>3</sup>/yr).

### **Carcinogenic TAP Emissions**

As discussed above, there is no change in the estimated PTE for emissions of carcinogenic TAP for this project as TAP emissions were previously calculated by assuming the IC engine and flare combusted the maximum annual amount of gas generated by the landfill annually.

### **Post Project HAP Emissions**

As discussed above, there is no change in the estimated PTE for emissions of hazardous air pollutants (HAP) for this project as HAP emissions were previously calculated by assuming the IC engine and flare combusted the maximum annual amount of gas generated by the landfill annually.

### ***Ambient Air Quality Impact Analyses***

Modeling was not required for this project because the proposed increases in NO<sub>x</sub>, CO, and VOC emissions due to correcting the IC engine horsepower rating as was installed by the facility do not trigger modeling per DEQ modeling guidelines.

## **REGULATORY ANALYSIS**

### ***Attainment Designation (40 CFR 81.313)***

The facility is located in Bannock County, which is designated as attainment or unclassifiable for PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub>, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

### ***Facility Classification***

The AIRS/AFS facility classification codes are as follows:

For THAPs (Total Hazardous Air Pollutants) Only:

- A = Use when any one HAP has actual or potential emissions  $\geq 10$  T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions  $\geq 25$  T/yr.
- SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits  $\geq 8$  T/yr of a single HAP or  $\geq 20$  T/yr of THAP.
- SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to  $< 8$  T/yr of a single HAP and/or  $< 20$  T/yr of THAP.
- B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold
- UNK = Class is unknown

For All Other Pollutants:

- A = Actual or potential emissions of a pollutant are  $\geq 100$  T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are  $\geq 80$  T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the

pollutant are < 80 T/yr.

B = Actual and potential emissions are < 100 T/yr without permit restrictions.

UNK = Class is unknown.

**Table 5 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION**

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	1.69	1.69	100	B
PM <sub>10</sub> /PM <sub>2.5</sub>	1.69	1.69	100	B
SO <sub>2</sub>	0.60	0.60	100	B
NO <sub>x</sub>	47.95	47.95	100	B
CO	47.98	47.98	100	B
VOC	15.94	15.94	100	B
HAP (single)	<10	<10	10	B
HAP (Total)	<25	<25	25	B

**Permit to Construct (IDAPA 58.01.01.201)**

IDAPA 58.01.01.201 Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed modified emissions source (permitting the as installed IC engine). Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

**Tier II Operating Permit (IDAPA 58.01.01.401)**

IDAPA 58.01.01.401 Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

**Visible Emissions (IDAPA 58.01.01.625)**

IDAPA 58.01.01.625 Visible Emissions

The sources of PM<sub>10</sub> emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 3.5.

**Rules for Control of Incinerators (IDAPA 58.01.01.785)**

IDAPA 58.01.01.785 Rules for Control of Incinerators

This Rule requires that no person shall allow, suffer, cause or permit any incinerator to discharge more than two-tenths (0.2) pounds of particulates per one hundred (100) pounds of refuse burned. Per IDAPA 58.01.01.006, Incinerator is defined as “Any source consisting of a furnace and all appurtenances thereto designed for the destruction of refuse by burning. “Open Burning” is not considered incineration. For purposes of these rules, the destruction of any combustible liquid or gaseous material by burning in a flare stack shall be considered incineration.” Therefore, the requirements of this Rule apply to flare at this facility.

For the flare, the PM emissions rate is calculated as follows:

As presented previously, the Applicant estimates particulate emissions from the flare at 0.95 tons-PM<sub>10</sub> per year. In addition, LandGem estimates the landfill gas produced in the maximum emissions year for Cells A and 4 combined at 9,059 Mg/yr (5,996 Mg/yr from Cell 4 and 3,063 Mg/yr from Cell A). The calculation was made based on all of the landfill gas being combusted in the flare.

$$\text{PM emissions rate} = 0.95 \text{ tons-PM}_{10}/\text{yr} \times 2,000 \text{ lb/ton} \times 1 \text{ yr}/9,059 \text{ Mg} \times 1 \text{ Mg}/2,205 \text{ lb} \div 100 \text{ lb}$$

PM emissions rate = 9.5E-07 lb-PM<sub>10</sub> per 100 pounds landfill gas combusted

Assuming PM is 50% PM<sub>10</sub> means that PM emissions will be 1.9E-06 lb-PM/100 lb-landfill gas combusted (9.5E-07 lb-PM<sub>10</sub>/100 lb-landfill gas combusted ÷ 0.5 lb-PM<sub>10</sub>/lb-PM), which is much less than the Rule requirement of 0.2 lb-PM/100 lb-landfill gas combusted. Therefore, compliance with this requirement has been demonstrated.

***Emissions Guidelines for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification On or After May 30, 1991 (IDAPA 58.01.01.859)***

IDAPA 58.01.01.859

Emissions Guidelines for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification On or After May 30, 1991

Section 01 states that for all owners or operators of each small or large municipal solid waste landfills in any one (1) of the following categories are subject to Section 859:

- a. Landfills constructed after May 30, 1991;
- b. Existing landfills with modifications after May 30, 1991; or
- c. Landfills that closed after November 8, 1987 with modifications after May 30, 1991.

The definitions of this Rule states that “Modification” means an action that results in 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. According to the previous Statement of Basis this landfill has been modified after May 30, 1991.

Section 03 states that all owners or operators of landfills subject to Section 859 must comply with 40 CFR Part 60, Subpart WWW, as amended by 63 Fed. Reg. 32,743-53 (June 16, 1998) and 64 Fed. Reg. 9,257- 62 (February 24, 1999) and incorporated by reference into these rules at Section 107. Where “Administrator” or “EPA” appears in 40 CFR Part 60, “Department” shall be substituted, except in any section of 40 CFR Part 60 for which a federal rule or delegation specifically indicates that authority will not be delegated to the state. The following NSPS Applicability Section addresses the requirements of Subpart WWW.

Sections 04 and 5 states that the operators of landfills subject to this Rule must apply for a Federal Title V permit and submit Non-Methane Organic Compound reports. The Applicant has already complied with these Sections of the Rule.

***Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)***

IDAPA 58.01.01.301

Requirement to Obtain Tier I Operating Permit

This facility is a municipal solid waste landfill that is required to obtain, and has obtained, a Federal Title V air permit (T1-2010.0155). Therefore, the facility is subject to requirements of IDAPA 58.01.01.300.

***PSD Classification (40 CFR 52.21)***

40 CFR 52.21

Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is/is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

### ***NSPS Applicability (40 CFR 60)***

Because the facility has a municipal solid waste landfill with a spark ignited IC engine the following NSPS requirements apply to this facility:

- 40 CFR 60, Subpart Cc - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills
- 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills
- 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

#### **40 CFR 60, Subpart Cc - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills**

This section applies and consists primarily of instructions to the state for writing rules for MSW landfills.

#### **40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills**

See the Statement of Basis for PTC permit No. P-2009.0146, issued April 6, 2010 and the Statement of Basis for Tier I permit No. T1-2010.0155, project 61262, issued January 17, 2014 for the Subpart WWW requirements for the landfill.

#### **40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines**

See the Statement of Basis for PTC permit No. P-2009.0146, issued March 31, 2010 and the Statement of Basis for Tier I permit No. T1-2010.0155, project 61262, issued January 17, 2014 for the Subpart JJJJ requirements for the IC engine.

### ***NESHAP Applicability (40 CFR 61)***

The facility is not subject to any NESHAP requirements in 40 CFR 61.

### ***MACT Applicability (40 CFR 63)***

Because the facility has a municipal solid waste landfill the following NESHAP (MACT) requirements apply to this facility:

- 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

#### **40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills**

See the Statement of Basis for PTC permit No. P-2009.0146, issued April 6, 2010 and the Statement of Basis for Tier I permit No. T1-2010.0155, project 61262, issued January 17, 2014 for the Subpart AAAA requirements for the landfill.

### ***Permit Conditions Review***

This section describes only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

#### ***PERMIT SCOPE***

Permit Condition 1.1 describes the change in the permitted IC engine as a result of this project.

Permit Condition 1.3 explains which previous permit for the facility is being replaced as a result of this project.

Table 1.1 was updated to reflect the as installed IC engine being permitted as a result of this project.

#### ***LANDFILL***

Permit Condition 2.1 was updated by removing the IC engine and flare process descriptions. These process descriptions were moved to a new permit section 3 for clarity.

## ***IC ENGINE AND FLARE***

Permit Condition 3.1 was updated by including the IC engine and flare process descriptions.

Permit Condition 3.2 was included to reflect the IC engine and flare descriptions.

Permit Condition 3.3 was included to state the emissions limits of the IC engine and the flare.

Permit Condition 3.4 was included to correct the NSPS 40 CFR 60, Subpart JJJJ emissions limits for the IC engine.

## **PUBLIC REVIEW**

### ***Public Comment Opportunity***

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.05.c. During this time, comments were not submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

### ***Public Comment Period***

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.01.c. During this time, comments were not submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

## APPENDIX A – EMISSIONS INVENTORIES

5. p4, 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 1* to this subpart for their stationary SI ICE.

*Table 1* to Subpart JJJJ of Part 60—NO<sub>x</sub>, CO, and VOC Emission Standards for Stationary SI Landfill/Digester Gas Engines

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards <sup>a</sup>					
			g/HP-hr			ppmvd at 15% O <sub>2</sub>		
			NO <sub>x</sub>	CO	VOC <sup>b</sup>	NO <sub>x</sub>	CO	VOC <sup>b</sup>
Landfill/Digester Gas (except Lean Burn 500 ≥ HP < 1,350)	HP ≥ 500	1/1/2007 7/1/2010	3.0	5.0	1.0	220	610	80
			2.0	5.0	1.0	150	610	80

<sup>a</sup>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 O<sub>2</sub>.

<sup>b</sup>For purposes of Subpart JJJJ, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

6. Potential to Emit – include in PTC “Emission limits “

The PTE table that is associated with this modification, previously found in the Statement of Basis, should be inserted in the PTC document, perhaps in the existing “Emission Limits” section on p 4.

The PTEs associated with this modification are:

EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS -- CONTROLLED EMISSIONS ( POTENTIAL TO EMIT )											
Source	PM-10		SO2		NOx		CO		VOC		Pb
	lb/hr	T/yr	lb/hr	T/yr	Point Sources		lb/hr	T/yr	lb/hr	T/yr	
Flare	0.22	0.95			0.58	2.52	0.67	2.95	0.19	0.82	0.00
Engine	0.57	2.50	0.14	0.60	10.36	45.43	10.28	45.03	3.45	15.12	0.00
Total, Pt Srcs	0.79	3.45	0.14	0.60	10.94	47.95	10.95	47.98	3.64	15.94	0.00
Note 1 : FLARE PTE for all emissions is retained from existing PTC (see SOB 2009.0146, Table 2, p 5)											
Note 2: ENGINE PTE for SO2, NOx, and Pb are retained from existing PTC.											
Note 3: ENGINE PTE for VOC is based on Cat 3516 emission rate of 2.0 g/bhp-hr.											
Note 4: ENGINE PTE for CO is based on 2015 Stack test +30% compliance margin.											
Note 5: ENGINE PTE for PM-10 is based on AP-42 Table 2.4-4 for IC engine +30% compliance margin.											

The PTE modifications are based on the following:

1. Engine Power: The installed engine is a *Caterpillar 3520C* burning landfill gas. Engine PTE and emissions vs standards comparisons uses published 100% power [2242 bhp].
2. Using 3520C engine at 100% power compared to 3516 engine at 75% power, PM-10 increases by factor of 2.6, to 0.44 lb/hr and 1.93 T/yr. The increased PM-10 PTE is 10% of the Modeling Guideline’s Level II threshold, and not seen as significant. Permittee requests to use new PTE +30% compliance margin: [0.57 lb/hr and 2.50 T/yr].
3. Using Bison Stack Test data [April 2015, p5], CO increases by factor of 1.4, to 7.91 lb/hr and 34.64 T/yr. The increased CO PTE is 6% of the Modeling Guideline’s Level II threshold, and not seen as significant. Permittee requests to use new PTE +30% compliance margin [10.28 lb/hr and 45.03 T/yr].

## APPENDIX B – FACILITY DRAFT COMMENTS

## **The following comments were received from the facility on October 19, 2015:**

**Facility Comment:** We have reviewed the Draft Permit to Construct Modification No. 1 (PTCM1) you provided to Bannock County on October 13, 2015. As directed by Dan Copeland, Bannock County's Public Works Director, I am providing the following comments and concerns related to the draft PTCM1 for your consideration.

Based on our review of the draft PTCM1, it appears the permit has been significantly reformatted making it difficult to compare with the initial PTC and determine the scope of the modifications to the permit.

It also appears that there has been approximately 17 pages of additional requirements added to the PTC through the proposed modifications presented in PTCM1-most notably the addition of surface monitoring and regulatory restrictions on operation of the collection system that were not in the initial PTC (see the attached word document which highlights the new text added to the PTC).

Table 3.2 containing the Potential to Emit (PTE) emission limits appears to have transpositions on the limits for CO and VOC (it appears that the limits stated for the IC engine and the Flare have been reversed).

**DEQ Response:** The Statement of Basis, as well as the permit, were modified to refer to the previous permitting projects that established the requirements of NSPS Subparts WWW and JJJJ as well as NESHAP Subpart AAAAA. In addition, Table 3.2 was corrected.

## **The following comments were received from the facility on December 9, 2015:**

**Facility Comment:** Permit, Cover Page -- The Applicant requests that PTC number be modified to show this is an amendment.

**DEQ Response:** The permit has been numbered per current DEQ naming convention. Therefore, the requested change will not be made to the Permit.

**Facility Comment:** Statement of Basis, Cover Page - The Applicant requests that the PTC number be modified to acknowledge it is amended.

**DEQ Response:** The permit has been numbered per current DEQ naming convention. Therefore, the requested change will not be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Table of Content Section - The Applicant requests that the Title V Classification section should be moved to a location between PTC and Tier II section for continuity.

**DEQ Response:** The Statement of Basis Sections were structured per current DEQ convention. Therefore, the requested change will not be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Description Section - The description text should match the PTCMOD text. In specific the SOB text indicates that Cell 4 came on line in 2011. However it was "planned" to come on line in 2011. At this time, Cell 4 is being constructed and is "planned" to come on line in 2016. In addition, the Flare came online in 2012 and the Generator came on line in 2014.

**DEQ Response:** The requested changes will be made to the Statement of Basis and the Permit Process Description will be edited to match the changes made in the Statement of Basis.

**Facility Comment:** Statement of Basis, Description Section - It is appropriate to confirm that the NSPS requirement for a collection system are not applicable until the landfill NMOC emission rate exceeds 50mg/yr.

**DEQ Response:** The applicability of NSPS requirements were discussed in the NSPS Applicability Section of the Statement of Basis in the previous permitting project. Therefore, the requested change will not be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Permitting History Section - A check of the original PTC indicates that the Permit Date was April 6, 2010.

**DEQ Response:** The requested change will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Application Scope Section – The Applicant requests that “During the Tier I Permit process the Permittee notified IDEQ that they would be unable to install a CAT 3516 engine and IDEQ indicated that this issue would be dealt with as part of the Tier I permit. Subsequently, the Tier I Permit was issued with the understanding that installation of an Engine with “Equivalent Emissions” was acceptable.” be added and that “During a required source test on the IC engine it was discovered that a different model IC engine with a higher power rating was installed at the facility than was originally applied for and permitted.” be deleted.

**DEQ Response:** Those statements that can be verified by DEQ will be added to the Statement of Basis, Application Scope Section.

**Facility Comment:** Statement of Basis, Technical Analysis Section, Table 1 - Need to use the correct year 2013 as noted in the PTC (DEQ Note: This is in reference to the manufacture date of the IC engine).

**DEQ Response:** The requested change will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Emissions Inventories Section, Table 2 - Since this Permit Modification is specifically being completed to the Potential to Emit limits identified in the original permit PM<sub>2.5</sub> and CO<sub>2e</sub> should not be included in the SOB table, since neither of these parameters were included in the associated PTC tables.

**DEQ Response:** The requested changes will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Emissions Inventories Section, Table 3 - Again PM<sub>2.5</sub> and CO<sub>2e</sub> should not be included in these SOB tables, as they were not part of the PTC modification agreement, nor are they included in the PTC modification. In addition we have no idea how IDEQ established the 7045 T/yr number. It does not match any of the data that is available to the permittee.

**DEQ Response:** The requested changes will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Emissions Inventories Section, Table 4 - Again PM<sub>2.5</sub> and CO<sub>2e</sub> should not be included in these SOB tables, as they were not part of the PTC modification agreement, nor are they included in the PTC modification. In addition we have no idea how IDEQ established the 7045 T/yr number. It does not match any of the data that is available to the permittee

**DEQ Response:** The requested changes will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Regulatory Analysis Section, Rules for Control of Incinerators - The complete reference should be included to take readers to the specific portion of the regulation that applies to this project.

**DEQ Response:** The numbering in the Definitions Rule, IDAPA 58.01.01.006, changes almost every year as new definitions are added to it. Thus, the number for the definition of an “incinerator” has changed many times over the years (currently it is 58). Therefore, the requested change will be not made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Regulatory Analysis Section, Rules for Control of Incinerators - Closing quotation mark should be added.

**DEQ Response:** The requested change will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Regulatory Analysis Section, Title V Classification - Reference to the existing Tier I permit should be included.

**DEQ Response:** The requested change will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Regulatory Analysis Section, NSPS Applicability - Original PTC was issued on April 6, 2010.

**DEQ Response:** The requested change will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Regulatory Analysis Section, MACT Applicability - Original PTC & SOB were issued on April 6, 2010.

**DEQ Response:** The requested change will be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Permit Conditions Review Section - We request confirmation from IDEQ that the installation of the system was voluntary until the NMOC Emissions exceed 50 mg/yr.

**DEQ Response:** As discussed previously, the applicability of NSPS requirements were discussed in the NSPS Applicability Section of the Statement of Basis in the previous permitting project. Therefore, the requested change will not be made to the Statement of Basis.

**Facility Comment:** Statement of Basis, Facility Draft Comments Appendix - There are more comments than this - permittee doesn't understand why IDEQ included this isolated comment as anything submitted prior to advertisement should be included in its entirety or totally excluded.

**DEQ Response:** The comments referenced by the Applicant were on draft permit conditions that were all removed at the Applicant's request by DEQ. Since the permit conditions were removed in their entirety, there was no reason to include comments on permit conditions that were no longer in the permit.

## APPENDIX C – PROCESSING FEE

## PTC Fee Calculation

**Instructions:**

Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

**Company:** Fort Hall Mine Road Landfill  
**Address:** 1500 N. Fort Hall Mine Rd.  
**City:** Pocatello  
**State:** ID  
**Zip Code:** 83204  
**Facility Contact:** Therese Machetti  
**Title:** Regulatory Compliance Manager  
**AIRS No.:** 005-00062

- N** Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N
- Y** Did this permit require engineering analysis? Y/N
- N** Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

<b>Emissions Inventory</b>			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO <sub>x</sub>	0.0	0	0.0
SO <sub>2</sub>	0.0	0	0.0
CO	20.8	0	20.8
PM10	0.0	0	0.0
VOC	12.9	0	12.9
TAPS/HAPS	0.0	0	0.0
<b>Total:</b>	0.0	0	<b>33.7</b>
<b>Fee Due</b>	<b>\$ 5,000.00</b>		

Comments:

