



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

February 1, 2011

Shawn Dolan, Manager of Engineering
Kootenai Electric Cooperative
2451 West Dakota Avenue
Hayden, Idaho 83835

RE: Facility ID No. 055-00091, Kootenai Electric Cooperative, Hayden
Final Permit Letter

Dear Mr. Dolan:

The Department of Environmental Quality (DEQ) is issuing Permit to Construct (PTC) No. P-2010.0139 Project 60607 to Kootenai Electric Cooperative located at Hayden for installation of two IC engines for landfill gas to energy. This PTC is issued in accordance with IDAPA 58.01.01.200 through 228 (Rules for the Control of Air Pollution in Idaho) and is based on the certified information provided in your PTC application received October 19, 2010.

This permit is effective immediately. This permit does not release Kootenai Electric Cooperative from compliance with all other applicable federal, state, or local laws, regulations, permits, or ordinances.

In accordance with IDAPA 58.01.01.313.01.b, you shall submit a complete application to DEQ for an initial Tier I operating permit within 12 months of becoming a Tier I source or commencing operation.

Pursuant to the Construction and Operation Notification General Provision of your permit, it is required that construction and operation notification be provided. Please provide this information as listed to DEQ's Coeur d'Alene Regional Office, 2110 Ironwood Parkway, Coeur d'Alene, Idaho 83814, Fax (208) 769-1404.

In order to fully understand the compliance requirements of this permit, DEQ highly recommends that you schedule a meeting with Almer Casile, Air Quality Analyst, at (208) 769-1422 to review and discuss the terms and conditions of this permit. Should you choose to schedule this meeting, DEQ recommends that the following representatives attend the meeting: your facility's plant manager, responsible official, environmental contact, and any other staff responsible for day-to-day compliance with permit conditions.

Pursuant to IDAPA 58.01.23, you, as well as any other entity, may have the right to appeal this final agency action within 35 days of the date of this decision. However, prior to filing a petition for a contested case, I encourage you to contact Eric Clark at (208) 373-0502 or Eric.Clark@deq.idaho.gov to address any questions or concerns you may have with the enclosed permit.

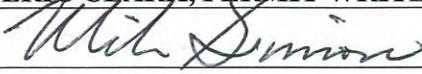
Sincerely,

A handwritten signature in black ink that reads "Mike Simon".

Mike Simon
Stationary Source Program Manager
Air Quality Division

MS\EC

Permit No. P-2010.0139 PROJ 60607

<p style="text-align: center;">Air Quality PERMIT TO CONSTRUCT State of Idaho Department of Environmental Quality</p>	PERMIT NUMBER	CLASS	SIC
	P-2010.0139	A	4911
	FACILITY ID	AQCR	NAICS
	055-00091	62	22111
	ZONE	UTM COORDINATES (km)	
11	505.2	5264.3	
PERMITTEE			
Kootenai Electric Cooperative			
PROJECT			
PROJECT No. 60607 and Initial Permit to Construct			
MAILING ADDRESS	CITY	STATE	ZIP
2451 W. Dakota Ave.	Hayden	ID	83835
FACILITY CONTACT	TITLE	TELEPHONE	
Shawn Dolan	Manager of Engineering	(208) 292-3276	
RESPONSIBLE OFFICIAL	TITLE	TELEPHONE	
Shawn Dolan	Manager of Engineering	(208) 292-3276	
EXACT PLANT LOCATION		COUNTY	
22500 S. Highway 95, Coeur d'Alene, Idaho 83814		Kootenai	
GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS			
Landfill Gas to energy facility			
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	February 1, 2011
ERIC CLARK, PERMIT WRITER			
			
MIKE SIMON, STATIONARY SOURCE MANAGER			

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PERMIT TO CONSTRUCT SCOPE

Purpose

1. This is the initial permit to construct for a landfill gas to energy facility.
2. The emission sources regulated by this permit are listed in the following table.

Table 1 REGULATED SOURCES

Source Descriptions	Emission Controls
Engine #1 -- Caterpillar G3520C, 2233 bhp or equivalent ^a	None
Engine #2 -- Caterpillar G3520C, 2233 bhp or equivalent ^a	None

a. Equipment which has an equivalent or less maximum bhp than listed in this table, which does not result in an increase in emissions, and which does not result in the emission of a toxic air pollutant not previously emitted.

INTERNAL COMBUSTION ENGINES

Process Description

- The Kootenai Electric Cooperative operates a landfill gas-to-energy facility utilizing landfill gas from the Fighting Creek Landfill as fuel for two engines to drive two 1.6 megawatt (MW) generators. Each engine operates at 2233 brake horsepower (bhp) at 100% load.

- Emission Controls Description

Table 2 INTERNAL COMBUSTION ENGINE DESCRIPTION

Emissions Units / Processes	Emission Control Devices	Emission Points
Engine #1 – Caterpillar G3520C	None	Stack
Engine #2 – Caterpillar G3520C	None	Stack

Emission Limits

- NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal combustion Engines – Emission Limits

In accordance with 40 CFR 60.4233(e), the permittee shall comply with the emission standards in Table 1 of this subpart for both spark ignition SI engines. The table below summarizes the emission standards required for the two engines.

Table 3 NO_x, CO and VOC EMISSION STANDARDS FOR STATIONARY NON-EMERGENCY SI ENGINES ≥ 100 hp

Engine type and fuel	Maximum Engine Power	Manufacture Date	Emission Standards ^a					
			g/hp-hr			ppmvd @ 15% O ₂		
			NO _x	CO	VOC ^b	NO _x	CO	VOC ^b
Landfill Gas	hp ≥ 500	7/1/2010	2.0	5.0	1.0	150	610	80

a) Owners and operators of stationary non-certified SI engines may choose to comply with emission standards in units of either g/hp-hr or ppmvd @ 15% O₂.

b) For the purposes 40 CFR 60, Subpart JJJJ, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

- Opacity Limit

Emissions from the engine stacks, or any other stack, vent, or functionally equivalent opening associated with the engines, 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.

- Odors

The permittee shall not allow, suffer, cause, or permit the emission of odorous gasses, liquids, or solids to the atmosphere in such quantities as to cause air pollution in accordance with IDAPA 58.01.01.776.01.

Operating Requirements

- In accordance with IDAPA 58.01.01.313.01.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 or commencing operation.
- The permittee shall operate and maintain the engines in a manner consistent with the manufacturer's recommendations.

10. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Maintenance Plan
In accordance with 40 CFR 60.4243(b)(2)(ii), the permittee shall keep a maintenance plan and must, to the extent practicable, maintain and operate the engines in the manner consistent with good air pollution control practice for minimizing emissions.
11. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Life Operation & Maintenance
In accordance with 40 CFR 60.4234, the permittee shall operate and maintain stationary SI engines that achieve the emission standards as required in 40 CFR 60.4233(e) over the entire life of each SI engine.
12. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – AFR Controller Maintenance and Operation
In accordance with 40 CFR 60.4243(g), the permittee shall maintain and operate the AFR controller on each engine in order to ensure proper operation of the engine and control device to minimize emissions at all times.
13. Allowable Fuel
All engines shall burn only landfill gas.

Monitoring and Recordkeeping Requirements

14. Odor Complaints
The permittee shall maintain records of all odor complaints received. If the complaint has merit, the permittee shall take appropriate corrective action as expeditiously as practicable. The records shall include, at a minimum, the date each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.
15. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines - Records
In accordance with 40 CFR 60.4245 (a)(1) and (2), the permittee shall keep records of the following information:
 - For each engine notifications submitted and all documentation supporting any notification.
 - Maintenance conducted on each SI engines.The permittee shall maintain these records on-site and be made available to DEQ representatives upon request for a period of at least five years.

Performance Testing Requirements

16. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Performance Test Schedule
In accordance with 40 CFR 60.4243(b)(2)(ii), the permittee shall conduct an initial performance test and conduct subsequent performance test every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance on each engine.
 - The permittee shall conduct the initial performance test within 60 days after achieving the maximum production rate, but not later than 180 days after initial startup.

17. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – Performance Test Procedures

In accordance with 40 CFR 60.4244, the permittee shall follow these procedures:

- Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under conditions that are specified by Table 2 to subpart JJJJ.
- The permittee may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified §60.8(c). If your stationary SI engine is non-operational, the permittee does not need to startup the engine solely to conduct a performance test.
- The permittee 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.
- To determine compliance with the NO_x mass per unit output emission limitation for each engine, the permittee shall convert the concentration of NO_x in the engine exhaust using the following equation:

$$ER = \frac{C_d * 1.912 * 10^{-3} * Q * T}{HP - hr}$$

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 x 10 ⁻³ | = | Conversion for ppm NO _x to grams per standard cubic meter @ 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. |

- To determine compliance with the CO mass per unit output emission limitation, the permittee shall convert the concentration of CO in the engine exhaust using the following equation:

$$ER = \frac{C_d * 1.164 * 10^{-3} * Q * T}{HP - hr}$$

Where:

- | | | |
|--------------------------|---|---|
| ER | = | Emission rate of CO in g/hp-hr. |
| C _d | = | Measured CO concentration in parts per million by volume (ppmv). |
| 1.164 x 10 ⁻³ | = | Conversion for ppm CO to grams per standard cubic meter @ 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. |

- When calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, the permittee shall convert the concentration of VOC in the engine exhaust using the following equation:

$$ER = \frac{C_d * 1.833 * 10^{-3} * Q * T}{HP - hr}$$

Where:

ER	=	Emission rate of VOC in g/hp-hr.
C _d	=	Measured VOC concentration as propane in parts per million by volume (ppmv).
1.833 x 10 ⁻³	=	Conversion for ppm VOC measured as propane to grams per standard cubic meter @ 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.

Reporting Requirements

18. Any notifications or reporting required by 40 CFR 60 Subpart JJJJ 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

Air Quality Permit Compliance
Department of Environmental Quality
Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
(208) 769-1422

19. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines - Initial Notification

In accordance with 40 CFR 60.4245, the permittee SI ICE must meet the following notification, reporting and recordkeeping requirements:

If the SI engines have not been certified by an engine manufacturer to meet the emission standards of 40 CFR 60.4231, the permittee must submit an initial notification as required in §60.7(a)(1). The notification must include the following information:

- Name and address of the owner or operator;
- The address of the affected source;
- Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
- Emission control equipment; and
- Fuel used.

20. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines - Performance Test Submittal

In accordance with 60.4245 (d), the permittee must submit a copy of each performance test as conducted in 40 CFR 60.4244 within 60 days after the test has been completed.

21. NSPS 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines - General Provisions of 40 CFR 60

In accordance with 40 CFR 60.4246, the permittee shall comply with the following applicable General Provisions of 40 CFR 60:

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

PERMIT TO CONSTRUCT GENERAL PROVISIONS

General Compliance

22. 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.]**
23. 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]**
24. 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

25. 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

26. 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; except in the case where pre-permit construction approval has been granted then notification shall be made within five working days after occurrence or within five working days after permit issuance whichever is later;
 - 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; and

- A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date.

[IDAPA 58.01.01.211, 5/1/94]

Performance Testing

27. 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.
28. 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.
29. Unless otherwise stated in this permit, 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

30. 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

31. 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

32. 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

33. 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

34. 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

35. 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

36. 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]