

Daily Flare Station Data Log

Tester Name/Initials	Potter	Potter	Potter	Potter	Potter	Potter
Day/Date		4/2/2019	4/3/2019	4/4/2019	4/5/2019	4/6/2019
Time		07:00a	07:00a	07:00a	07:00a	07:00a
Sky Conditions		Clear	Rain	Clear	Clear	Rain
Ambient Temp., F		23	40	38	33	41
Barometric Pressure, inches		30.4"	29.9"	30.4"	30.5"	30.1"
Flare Temp., F (touchscreen analog data menu)		1177	1330	1292	1175	1220
Louver Position % Closed (touchscreen - "Flare Temp")		97%	97%	97%	97%	97%
Flare Temp. SP (set point), F (touchscreen - "Set Points" & "Flare Setpoint" and "Flare/Louver Man/Auto, Temp. Setpoints")		1600	1600	1600	1600	1600
Blower Current, Amps (touchscreen - "Blower Data")		6.5	6.5	6.4	6.3	7.1
Hour Meter, hrs. (touchscreen - "Blower Data")		80636	80660	80684	80708	80732
Landfill Gas Flow, SCFM (touchscreen - "process overview")		147	141	152	151	142
Landfill Gas Oxygen % (touchscreen - "Process Overview")		0%	0%	0%	0%	0%
Landfill Gas Methane % (touchscreen - "Process Overview")		195%	195%	195%	195%	195%
LFG Inlet Gas Temp., F (gauge)		86	90	90	92	96
Flare Flow Temperature, F (gauge)		42	46	44	44	46
LFG Inlet Pipe Vacuum, inches W.C. (gauge)		Surging	Surging	Surging	Surging	Surging
Demister Filter DP (differential pressure), inches W.C. (gauge)		Surging	Surging	Surging	Surging	Surging

Alarms :

Comments:

Flare has run for three weeks now.

I will have the system run until it stops on it's own.

Please send this information to SCS weekly. (Attention Lisa Wilkinson)

Daily Flare Station Data Log

Tester Name/Initials	Potter	Potter	Potter	Potter	Potter	Potter
Day/Date		4/9/2019	4/10/2019	4/11/2019	4/12/2019	4/13/2019
Time		07:00a	Shutdown	Shutdown	Shutdown	Shutdown
Sky Conditions		Overcast				
Ambient Temp., F		40				
Barometric Pressure, inches		29.7"				
Flare Temp., F (touchscreen analog data menu)		1186				
Louver Position % Closed (touchscreen - "Flare Temp")		97%				
Flare Temp. SP (set point), F (touchscreen - "Set Points" & "Flare Setpoint" and "Flare/Louver Man/Auto, Temp. Setpoints")		1600				
Blower Current, Amps (touchscreen - "Blower Data")		6.6				
Hour Meter, hrs. (touchscreen - "Blower Data")		80804	80807			
Landfill Gas Flow, SCFM (touchscreen - "process overview")		138				
Landfill Gas Oxygen % (touchscreen - "Process Overview")		0%				
Landfill Gas Methane % (touchscreen - "Process Overview")		195%				
LFG Inlet Gas Temp., F (gauge)		94				
Flare Flow Temperature, F (gauge)		46				
LFG Inlet Pipe Vacuum, inches W.C. (gauge)		Surging				
Demister Filter DP (differential pressure), inches W.C. (gauge)		Surging				

Alarms:

Comments:

Flare has run for three weeks now.

I will have the system run until it stops on it's own.

Please send this information to SCS weekly. (Attention Lisa Wilkinson)

March 15, 2019
File No. 07216097.00

Mr. Gary J. Schneider
Director of Public Works
Town of Groton
134 Groton Long Point Road
Groton, Connecticut 06340

Subject: Monthly Operation and Flare Emission Calculations – February 2019
Flanders Road Landfill Gas Flare

Dear Mr. Schneider:

Please see the attached emission calculations for the candle stick flare system at the Flanders Road Landfill for the month of February 2019. SCS has reviewed weekly flare operations logs and has noted the flare operated February 21st to approximately February 23rd with an average flow rate of 182 scfm as shown on Table 1. No readings were taken on the 23rd. The flare will continue to operate on an intermittent schedule; approximately two-weeks off, followed by one-week on.


As shown on Table 2, the pollutant emissions for the month of February are below the maximum permitted hourly emissions rates and the maximum permitted 12-month rolling emissions rates. During flare operation, the flare operated within the permitted combustion temperature range of 1300°F-1500°F.

Please let us know if you have any questions or comments.

Sincerely,



Peter S. Cattaneo
Staff Engineer
SCS Engineers



Lisa K. Wilkinson, PE
Project Manager
SCS Engineers

cc: A. Letendre, SCSFS
Christian Lund, Town of Groton
Gary Potter, Town of Groton



Flanders Road Landfill
Groton, Connecticut
Table 1 - Monthly Flow Log
February 2019

Date	Flow	Blower Hours	Flare Temperature (°F)	Flare Operational Status
2/1/2019				Flare Down
2/2/2019				Flare Down
2/3/2019				Flare Down
2/4/2019				Flare Down
2/5/2019				Flare Down
2/6/2019				Flare Down
2/7/2019				Flare Down
2/8/2019				Flare Down
2/9/2019				Flare Down
2/10/2019				Flare Down
2/11/2019				Flare Down
2/12/2019				Flare Down
2/13/2019				Flare Down
2/14/2019				Flare Down
2/15/2019				Flare Down
2/16/2019				Flare Down
2/17/2019				Flare Down
2/18/2019				Flare Down
2/19/2019				Flare Down
2/20/2019				Flare Down
2/21/2019	187	80103	1495	START UP
2/22/2019	177	80124	1476	
2/23/2019		80141		Flare Shutdown
2/24/2019				Flare Down
2/25/2019				Flare Down
2/26/2019				Flare Down
2/27/2019				Flare Down
2/28/2019				Flare Down

Table 2 - Emissions Calculations
February 2019

Total Flow Rate to Flare	
Average Flow Rate (scfm)	182
Total Operating Time ⁽³⁾ (hr)	67
Total Monthly Flow (scf)	731,640
12-Month Rolling Annual Flow (scf)	46,393,835

Calculated Air Pollutant Emission Rates						
Pollutant	Emission Factor ⁽¹⁾ (lbs/scf)	Monthly Emission lb/month	Hourly Emission lb/hr	Permit limit ⁽²⁾ lb/hr	12-mo Rolling Emissions tons/yr	Permit Limit ⁽²⁾ tons/year
PM	6.00E-06	4.4	0.07	0.15	0.14	0.66
SO2	7.13E-05	52.2	0.78	1.93	1.65	8.43
NOx	2.40E-05	17.6	0.26	0.6	0.56	2.64
NMOC	2.59E-06	1.9	0.03	0.07	0.06	0.29
CO	4.00E-05	29.3	0.44	1.01	0.93	4.39

(1) Used the same Emission factor as provided by previous consultant (from October 19, 2012, Air Permit Revision Calculation). SCS was not able to verify the emissions factors due to insufficient information.

(2) Hourly and Annual emission rate from Air Permit No. 070-0244 dated January 2, 2013.

(3) Total operating time is equal to the last reading of the current month minus the last reading of the previous month.

SCS FIELD SERVICES

January 25, 2019
File No. 07204048.00

Kristin Doundoulakis
Project Management Specialist
Town of Groton
Public Works Department
(860) 448-4544

Subject: Groton Landfill Fourth Quarter Gas Collection System Operations,
Monitoring and Maintenance (OM&M) Report

Dear Ms. Doundoulakis:

SCS Field Services (SCS-FS) has prepared this quarterly report summarizing our landfill gas (LFG) collection system operations, monitoring, and maintenance (OM&M) activities performed for the Town of Groton (Town), at the Groton Landfill during the fourth quarter of 2018. This report addresses any non-routine maintenance and diagnostics on the wellfield and flare station facility during the quarter.

SCS-FS Gas System Daily Log sheets are completed by the technician during each visit to the site to summarize our activities while on location, including routine well monitoring, routine flare system monitoring, routine maintenance activities, non-routine maintenance activities, and emergency response services. Our daily log sheets for the period from October 1st through December 30th, 2018 are included with this report as Attachment 1.

Routine Flare System Monitoring and Maintenance

The Groton landfill utilizes a Perennial Energy Flare (PEI flare) rated at 1200 cubic feet per minute (cfm). Flare operational data, including gas quality, flow, flare temperature, inlet vacuum, and blower outlet pressure was recorded by technicians during our site visit. Flare LFG flow and flame temperature trend data is also recorded by a Yokogawa digital data recorder which can be downloaded for review.

LFG quality monitoring is conducted at the inlet of the flare during each site visit. LFG monitoring data is saved electronically and maintained within Data Services, SCS-FS' online database application (scsetools.com).

During the routine visit by SCS-FS staff on October 30th and November 30th the flare was observed to be operating normally.



The following routine maintenance tasks were performed during the quarter:

- Inspected flare systems for proper operation;
- Inspected blower for abnormal wear;
- Inspected and cleaned flow meter;
- Exercised valves;
- Checked gas composition at the flare system inlets.

Scheduled Non-Routine Maintenance

There were no non-routine tasks performed during the quarter.

Unscheduled Maintenance / Alarm Call-Back Response

There were no alarm calls or unscheduled maintenance during this period.

Collection System Extraction Well Monitoring and Balancing

The Groton Landfill collection system currently includes 30 active LFG collectors, all of which are vertical wells. There are no horizontal collectors or leachate system connections on the landfill. Each collector is sampled and or balanced each quarter. On October 30th, 2018 SCS-FS performed the routine well balancing for the quarter. Complete wellfield monitoring and balancing data is included as Attachment 2.

Closing

SCS-FS appreciates the opportunity to conduct LFG system operations and maintenance for the Town of Groton. We will continue to operate and maintain the collection system and would be happy to assist the Town as requested.

If you have any questions regarding this report or our site visit reports, please contact either of the undersigned.

Sincerely,


Jason Carey
Senior Technician
SCS FIELD SERVICES


Aaron LeTendre
Project Manager
SCS FIELD SERVICES

Attachment 1
Site Visit Logs



Daily Flare Station Data Log

Tester Name/Initials	Jcarey	Jcarey				
Day/Date	10/30/2018	11/30/2019				
Time	14:30	12:30				
Sky Conditions	Clear	Cloudy				
Ambient Temp., F	48	40				
Barometric Pressure, inches	29.74	29.72				
Flare Temp., F (touchscreen analog data menu)	1591	1600				
Louver Position % Closed (touchscreen - "Flare Temp")	99%	99%				
Flare Temp. SP (set point), F (touchscreen - "Set Points" & "Flare Setpoint" and "Flare/Louver Man/Auto, Temp. Setpoints")	1600	1600				
Blower Current, Amps (touchscreen - "Blower Data")	8.1	7.8				
Blower Run Time, hrs. (touchscreen - "Blower Data")	79512	79690				
Landfill Gas Flow, SCFM (touchscreen - "process overview")	194	195				
Landfill Gas Oxygen %	1.0%	1.1%				
Landfill Gas Methane %	22.1%	24.5%				
LFG Inlet Gas Temp., F (gauge)	57	50				
Flare Flow Temperature, F (gauge)	67	64				
LFG Inlet Pipe Vacuum, inches W.C. (gauge)	-6.34	-5.5				
Demister Filter DP (differential pressure), inches W.C. (gauge)	0.1	0.1				

Alarms:

None

Comments:

10/30- Onsite for Quarterly wellfield tuning

11/30- Onsite for routine flare checks

Attachment 2
Quarterly Well Monitoring Data

Groton Landfill - Well Data 10/01/2018 to 12/31/2018

Point Name	Record Date	CH4 (% by vol)	CO2 (% by vol)	O2 (% by vol)	Bal Gas (% by vol)	Init Temp (F)	Adj Temp (F)	Init Static Pressure ("H2O)	Adj Static Pressure ("H2O)	Init Flow (scfm)	Adj Flow (scfm)	System Pressure ("H2O)	Comments
GROTW01	10/30/2018 14:17	25.1	22.1	0.0	52.8	62.1	62.1	-0.42	-0.42	20.4	21.0	-4.25	
GROTW02	10/30/2018 14:13	16.4	21.3	0.0	62.3	60.8	60.8	-0.35	-0.35			-5.16	
GROTW03	10/30/2018 14:08	15.1	9.9	11.8	63.2	58.6	58.6	-0.46	-0.46			-0.44	
GROTW04	10/30/2018 13:59	15.1	21.5	0.1	63.3	59.9	59.9	-0.36	-0.36			-5.44	
GROTW05	10/30/2018 14:05	29.0	26.2	0.0	44.8	61.0	61.0	-0.60	-0.67	17.2	19.3	-5.95	Comments:increased vacuum,,,,,,
GROTW06	10/30/2018 14:11	22.2	21.9	0.3	55.6	61.2	61.2	-0.39	-0.40	24.7	24.6	-4.83	
GROTW07	10/30/2018 14:21	19.1	22.1	0.0	58.8	60.0	60.0	-0.36	-0.36			-5.73	
GROTW08	10/30/2018 14:29	23.3	25.3	0.0	51.4	58.9	58.9	-0.40	-0.41			-6.25	
GROTW09	10/30/2018 14:39	23.3	23.8	0.0	52.9	59.2	59.2	-0.50	-0.49	14.3	14.9	-6.17	
GROTW10	10/30/2018 13:57	18.4	24.6	0.0	57.0	54.2	54.2	-0.40	-0.42			-6.52	
GROTW11	10/30/2018 14:42	30.1	23.2	0.1	46.6	65.5	65.5	-0.57	-0.59	17.8	21.7	-5.59	Comments:increased vacuum,,,,,,
GROTW12	10/30/2018 14:34	0.1	0.1	20.7	79.1	53.0	53.0	-0.35	-0.36			-4.89	
GROTW13	10/30/2018 13:43	0.6	4.2	16.4	78.8	57.8	57.8	-0.28	-0.28			-0.30	
GROTW14	10/30/2018 13:45	15.3	23.9	0.2	60.6	55.8	55.8	-0.29	-0.30			-5.71	
GROTW15	10/30/2018 13:51	20.3	24.8	0.1	54.8	56.5	56.5	-0.39	-0.39	24.0	24.4	-6.31	
GROTW16	10/30/2018 12:49	10.0	22.4	1.0	66.6	63.4	63.4	-0.09	-0.10			-5.87	
GROTW17	10/30/2018 12:52	0.2	19.5	0.4	79.9	59.0	59.0	-0.16	-0.17			-6.19	
GROTW18	10/30/2018 13:53	18.6	24.1	0.0	57.3	59.0	59.0	-0.51	-0.52	25.7	23.8	-5.09	
GROTW19	10/30/2018 13:25	21.1	24.5	0.1	54.3	64.2	64.2	-0.46	-0.44	13.4	12.6	-6.28	Comments:No Change,,,,,,
GROTW20	10/30/2018 13:41	13.2	22.5	0.0	64.3	59.1	59.1	-0.29	-0.30	31.4	31.3	-5.84	
GROTW21	10/30/2018 13:33	12.6	21.9	0.0	65.5	59.3	59.3	-0.43	-0.42	23.4	23.9	-6.21	Comments:No Change,,,,,,
GROTW22	10/30/2018 13:22	23.0	25.4	0.1	51.5	63.0	63.0	-0.54	-0.56	20.4	20.4	-5.38	
GROTW23	10/30/2018 12:59	4.6	20.4	0.6	74.4	58.9	58.9	-0.24	-0.24			-6.09	
GROTW24	10/30/2018 12:55	0.0	0.1	20.3	79.6	59.5	59.5	-0.20	-0.20			-6.29	
GROTW25	10/30/2018 13:08	12.9	13.3	10.0	63.8	54.9	54.9	-0.28	-0.27			-5.93	Comments:No Change,,,,,,
GROTW26	10/30/2018 13:28	18.4	25.0	0.0	56.6	58.1	58.1	-0.44	-0.45			-6.09	
GROTW27	10/30/2018 13:31	1.4	20.9	1.7	76.0	58.1	58.1	-0.34	-0.35			-6.35	
GROTW28	10/30/2018 13:12	26.7	26.1	0.1	47.1	59.8	59.8	-0.77	-0.78	6.2	7.1	-6.57	
GROTW29	10/30/2018 13:04	12.7	22.2	0.6	64.5	58.4	58.4	-0.36	-0.37	28.0	29.3	-5.98	
GROTW30	10/30/2018 13:01	12.8	21.0	0.0	66.2	59.0	59.0	-0.23	-0.24			-6.22	

Groton Landfill - Flare Engine Gl_o Data - 10/01/2018 to 12/31/2018

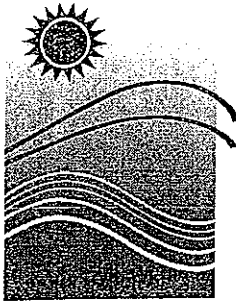
Point Name	Record Date	CH4 (% by vol)	CO2 (% by vol)	O2 (% by vol)	Bal Gas (% by vol)	Init Temp (F)	Adj Temp (F)	Init Static Pressure (^o H2O)	Adj Static Pressure (^o H2O)	Init Flow (scfm)	Adj Flow (scfm)	System Pressure (^o H2O)	Comments
GROTFLR1	10/30/2018 12:30	21.6	22.5	1.2	54.7	57.0	57.0	-7.66	-7.46	200.0	200.0	0.24	
GROTFLR1	10/30/2018 14:52	22.1	23.1	1.0	53.8	57.0	57.0	-6.25	-6.34	195.0	195.0	-6.56	

Groton Landfill - Calibration Rec... Data - 10/01/2018 to 12/31/2018

Point Name	Record Date	CH4 (% by vol)	CO2 (% by vol)	O2 (% by vol)	Bal Gas (% by vol)	Comments
GROTCAL1	10/30/2018 12:24	50.0	35.0	0.0	15.0	

Groton Landfill - Weather Data - 10/01/2018 to 12/31/2018

Record Date	Barometric Pressure	Ambient Temp	Precipitation	Wind Speed	Wind Direction	General Weather	Field Technician
10/30/2018	29.72	48.00	0.00	4.00	NW	Partly cloudy	JCarey



Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

BUREAU OF AIR MANAGEMENT
NEW SOURCE REVIEW PERMIT
TO CONSTRUCT AND OPERATE A STATIONARY SOURCE

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-3a of the Regulations of Connecticut State Agencies (RCSA).

Owner/Operator:	Town of Groton, Department of Public Works
Address:	134 Groton Long Point Road, Groton, CT 06340
Equipment Location:	Flanders Road, Groton, CT
Equipment Description:	Landfill with active gas collection and treatment system

Town-Permit Numbers:	070-0244
Town-Premises Numbers:	070-99
Modification Issue Date:	January 2, 2013
Prior Permit Issue Date:	10/31/2002
Expiration Date:	None

I CERTIFY THAT THIS IS A TRUE COPY OF THE ORIGINAL
Sharon Rowe-Johnson
1/2/13

for Daniel C. Esty
Daniel C. Esty
Commissioner

January 2, 2013
Date

ORIGINAL

**PERMIT FOR MUNICIPAL SOLID WASTE LANDFILL
GAS COLLECTION & CONTROL SYSTEM**

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

PART I. DESIGN SPECIFICATIONS

A. General Description

The system consists of a flexible membrane layer cap to capture emissions, thirty wells and gas header pipe to collect the gas which moves past a blower into the enclosed flare. The heat from the enclosed flare breaks down the gas into its components. Propane may be used at startup of the enclosed flare.

B. Equipment Design Specifications

1. Enclosed Flare Manufacturer: Perennial Energy, Inc.
2. Enclosed Flare Model No.: Model No. FL-72-26-E
3. Primary Fuel Type: Landfill gas with a lower heating value of 300-500 BTU/scf
4. Maximum Primary Fuel Flow Rate: 450 scfm
5. Secondary Fuel Type: Propane
6. Maximum Secondary Fuel Flow Rate: 18 cfh
7. Design Combustion Temperature: 1400 °F
8. Minimum Residence Time: 0.6 seconds
9. Minimum Destruction Efficiency: 98%
10. Fuel Filter: Liquid knockout vessel with polypropylene demister / filter element (99% efficient at 6 microns liquid/particulate)

C. Stack Parameters

1. Maximum Exhaust Gas Flow Rate: 9,420 scfm
2. Minimum Distance from Stack to Nearest Property Line: 400 ft
3. Minimum Stack Height: 26.6 ft (from concrete pad to top of lifting lug)

FIRM NAME: Town of Groton, Department of Public Works
 EQUIPMENT LOCATION: Flanders Road Landfill, Groton, CT
 EQUIPMENT DESCRIPTION: Landfill with active gas collection and treatment system

Town No: 070
ORIGINAL

Premises No: 99

Permit No: 0244

Stack No: 01

**PERMIT FOR MUNICIPAL SOLID WASTE LANDFILL
GAS COLLECTION & CONTROL SYSTEM**

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT

PART II. OPERATIONAL CONDITIONS

A. Operating Parameter Limitations

1. Allowable Landfill Gas Flow Rate to Enclosed Flare: 90 - 450 scfm
2. Maximum Annual Landfill Gas Flow to Enclosed Flare: 236.52 MMcf/yr
3. Maximum Annual Propane Usage: 20 lb/yr
4. Allowable Combustion Temperature: 1300 - 1500 °F

B. O&M Requirements

1. The Permittee shall operate the enclosed flare with no visible emissions as determined by Reference Method 22, Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares, (or other alternative method acceptable to the commissioner) except for periods not to exceed a total of five minutes during any two consecutive hours.
2. The Permittee shall comply with any and all supplied warranties, stipulations, and recommendations set by the enclosed flare manufacturer and supplier on the method of installing and operating this landfill active gas collection and treatment system.
3. The Permittee shall conduct an inspection of the active gas collection and treatment system at least once per quarter. This inspection shall consist of the well pipelines, enclosed flare, all monitoring equipment, and any other associated equipment. Any part of the system that is functioning incorrectly shall be corrected immediately. For the purposes of this permit, "functioning incorrectly" shall mean equipment operating in such a manner that it violates any:
 - a. condition of this permit,
 - b. applicable section of the RCSA, or
 - c. supplied warranty, stipulation or recommendation set by the manufacturer and supplier of this active gas collection and treatment system.
4. The Permittee shall operate the active gas collection and treatment system such that all collected gases are vented to the enclosed flare. In the event that the enclosed flare is inoperable, the Permittee shall shutdown the gas mover system and close all valves in the collection and control system contributing to venting of the gas to the atmosphere by taking reasonable measures and safety precautions.

FIRM NAME: Town of Groton, Department of Public Works
 EQUIPMENT LOCATION: Flanders Road Landfill, Groton, CT
 EQUIPMENT DESCRIPTION: Landfill with active gas collection and treatment system

Town No: 070

Premises No: 99

Permit No: 0244

Stack No: 01

ORIGINAL

**PERMIT FOR MUNICIPAL SOLID WASTE LANDFILL
GAS COLLECTION & CONTROL SYSTEM**

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT

PART II. OPERATIONAL CONDITIONS, continued

5. The active gas collection and treatment system shall be operated and maintained only by personnel properly trained in its operation.
6. The Permittee shall operate this source and premise at all times in a manner so as not to violate or significantly contribute to the violation of any applicable state requirements for the control of fugitive dust emissions, as set forth in RCSA Section 22a-174-18(c).

PART III. ALLOWABLE EMISSION LIMITS

The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time.

A. Criteria Pollutants

<u>Pollutant</u>	<u>lb/hr</u>	<u>TPY</u>
TSP/PM ₁₀ /PM _{2.5}	0.15	0.66
SO ₂	1.93	8.43
NO _x	0.60	2.64
VOC (as NMOC)	0.07	0.29
CO	1.01	4.39

The emission rates above represent the emissions at the maximum allowable landfill gas flow rate of 450 scfm entering the enclosed flare as limited in Part II.A.1 of this permit. Propane emissions are negligible due to the usage limit in Part II.A.3 of this permit.

- B. Hazardous Air Pollutants:** This source shall not cause an exceedance of the Maximum Allowable Stack Concentration (MASC) for any hazardous air pollutant (HAP) emitted and listed in RCSA Section 22a-174-29. [State Only Requirement]

Demonstration of compliance with the above emission limits shall be met by calculating the emission rates using emission factors from the following sources:

1. Manufacturer's Data
2. Site-Specific Sampling or Emission Test Data
3. AP-42

The commissioner may require other means (e.g. stack testing) to demonstrate compliance with the above emission limits, as allowed by state or federal statute, law or regulation.

FIRM NAME: Town of Groton, Department of Public Works
EQUIPMENT LOCATION: Flanders Road Landfill, Groton, CT
EQUIPMENT DESCRIPTION: Landfill with active gas collection and treatment system

ORIGINAL 70

Premises No: 99

Permit No: 0244

Stack No: 01

**PERMIT FOR MUNICIPAL SOLID WASTE LANDFILL
GAS COLLECTION & CONTROL SYSTEM**

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT

PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS

A. Monitoring

The Permittee shall calibrate, maintain and operate the following equipment according to manufacturer's specifications for monitoring and compliance purposes:

1. O₂ monitors to provide correct O₂ concentration intake to the combustion chamber.
2. The presence of a flame shall be monitored using a thermocouple(s) or any other equivalent device/method to detect the presence of a flame.
3. A temperature monitoring device with an accuracy of $\pm 1\%$ equipped with a continuous recorder to measure combustion temperature.
4. A flow indicator for the intake gas stream that provides a record of gas flow to the enclosed flare at intervals of at least every 15 minutes.

B. Record Keeping

1. The Permittee shall keep records of the enclosed flare combustion temperature as determined from the temperature monitoring device required by Part IV.A.3 of this permit.
2. The Permittee shall keep records of gas flow to the enclosed flare from the intake gas stream flow indicator required by Part IV.A.4 of this permit.
3. The Permittee shall keep records of the monthly and annual volumetric landfill gas flow rate to the enclosed flare. Annual volumetric landfill gas flow rate shall be based on any consecutive 12 month period and shall be determined by adding the current month's volumetric landfill gas flow rate to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month.
4. The Permittee shall keep records of propane purchases to demonstrate compliance with Part II.A.3 of this permit.
5. The Permittee shall maintain monthly records of all criteria pollutant emissions calculations and supporting documentation to demonstrate compliance with the annual emission limitations set forth in Part III.A of this permit. Such records shall assure that the annual emissions of each criteria pollutant can be calculated over any rolling 12 month period.

FIRM NAME: Town of Groton, Department of Public Works
 EQUIPMENT LOCATION: Flanders Road Landfill, Groton, CT
 EQUIPMENT DESCRIPTION: Landfill with active gas collection and treatment system

Town No: 070


Premises No: 99

Permit No: 0244

Stack No: 01

**PERMIT FOR MUNICIPAL SOLID WASTE LANDFILL
GAS COLLECTION & CONTROL SYSTEM**

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT

PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS,
continued.

6. The Permittee shall maintain quarterly records of inspection results, from the inspections required in Part II.B.3 of this permit, and any changes made as a result of these inspections.
7. The Permittee shall keep all records created in accordance with prior versions of this permit for no less than three years from the date the record was generated. Any records created after the date of issuance of this modified permit shall be kept for no less than five years from the date the record was generated and shall submit such records to the commissioner upon request.

C. Reporting

Any breakdown or malfunction of the enclosed flare, resulting in the emission of raw landfill gas, shall be reported to the Bureau of Air Management by noon the following business day and immediate remedial measures shall be taken to correct the problem and prevent further emissions to the atmosphere.

PART V. SOURCE TEST REQUIREMENTS

Stack emission testing shall not be required at this time for this source.

PART VI. SPECIAL REQUIREMENTS

- A. The Permittee is not subject to the requirements of 40 CFR Part 62 Subpart GGG other than the requirements in the definition of design capacity to recalculate the site-specific density annually and in 40 CFR §62.14355 to submit an amended design capacity report in the event that the recalculated design capacity is equal to or greater than 2.5 million megagrams and 2.5 million cubic meters.

Copies of the Code of Federal Regulations (CFR) are available online at the U.S. Government Printing Office website.

- B. STATE ONLY REQUIREMENT: The Permittee shall operate this facility at all times in a manner so as not to violate or contribute significantly to the violation of any applicable state noise control regulations, as set forth in RCSA Sections 22a-69-1 through 22a-69-7.4.

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BUREAU OF AIR MANAGEMENT

PART VI. SPECIAL REQUIREMENTS, continued

- C. STATE ONLY REQUIREMENT: The Permittee shall not cause or permit the emission of any substance or combination of substances which create or contribute to an odor, in the ambient air, that constitute a nuisance, as set forth in RCSA Section 22a-174-23.
- D. The replacement, repair, or retiring of any LFG well(s) shall not constitute a modification of this permit.
- E. The Permittee shall not inject LFG condensate and/or landfill leachate into the enclosed flare.

PART VII. ADDITIONAL TERMS AND CONDITIONS

- A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- B. Any representative of DEEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.
- C. This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
- D. This permit is subject to and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut and conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons or municipalities who are not parties to this permit.

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PART VII. ADDITIONAL TERMS AND CONDITIONS, continued

- E. Any document, including any notice, which is required to be submitted to the commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute."
- F. Nothing in this permit shall affect the commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the commissioner.
- G. Within 15 days of the date the Permittee becomes aware of a change in any information submitted to the commissioner under this permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the commissioner.
- H. The date of submission to the commissioner of any document required by this permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.
- I. Any document required to be submitted to the commissioner under this permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of Director; Engineering & Enforcement Division; Bureau of Air Management; Department of Energy and Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.

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