



4701 W. Russell Rd Suite 200
Las Vegas, NV 89118-2231
Phone (702) 455-5942
Fax (702) 383-9994

PART 70 OPERATING PERMIT

SOURCE ID: 395

Apex Regional Landfill
13550 N Las Vegas Blvd
Las Vegas, NV 89124

ISSUED ON: July 12, 2018

EXPIRES ON: July 11, 2023

Current action: Reopen for Cause and Revision

Revision date: January 25, 2022

Issued to:

Republic Dumpco, Inc.
770 East Sahara Avenue
Las Vegas, Nevada 89104

Responsible Official:

David Vossmer, General Manager
PHONE: (702) 599-5901 FAX: (702) 599-5946
EMAIL:
DVOSSMER@REPUBLICSERVICES.COM

NATURE OF BUSINESS:

SIC codes 4953, "Refuse Systems"; 1442, "Construction Sand and Gravel"; & 4911, "Electrical Services"
NAICS codes 562212, "Solid Waste Landfill"; 212321, "Construction Sand and Gravel Mining"; & 221119, "Other Electrical Power Generation"

Issued by the Clark County Department of Environment and Sustainability in accordance with Section 12.5 of the Clark County Air Quality Regulations.

A handwritten signature in blue ink that reads "Theodore A. Lendis".

Theodore A. Lendis, Permitting Manager

EXECUTIVE SUMMARY

Apex Regional Landfill (“Apex”) operates under SIC Codes 4953, “Refuse Systems;” 1442, “Construction Sand and Gravel”, and 4911, “Electrical Services” and NAICS Codes 562212, “Solid Waste Landfill;” 212321, “Construction Sand and Gravel Mining;” and 221119, “Other Electrical Power Generation.” Apex is located in Apex, East of interstate 15/US 93 Junction. The legal description of the source’s location is as follows: portions of T18S, R64E, Section 18, 19 and 20 and T18S, R63E, Section 13 and 24 in Garnet Valley, Clark County, Apex, Nevada. Apex is situated in Hydrographic Areas 216 - Garnet Valley. Garnet Valley is designated as PSD for 8-hour ozone (regulated through NO_x and VOC), PM₁₀, CO, and SO₂.

The consolidation of Apex Republic Dumpco, Inc., Apex Waste Management Center, and Republic Services Renewable Energy exceeds the major Part 70 source thresholds for NO_x, CO, SO₂, combined HAP, and H₂S. The source is a minor source for PM₁₀, PM_{2.5}, and VOC.

Apex has served as the primary municipal solid waste landfill for Clark County since October of 1993. The types of material the landfill accepts includes municipal solid waste, petroleum contaminated soil, asbestos, construction debris, sewage sludge, septic waste, medical waste and dead animal waste. Apex Regional Landfill has a landfill gas collection and control system with an enclosed combustion (Zule Zink Low Emission Flare) flare capable of burning at 136.605 MMBtu/hr or 5,000 scfm (EU: W11) and a 1,920 scfm open landfill gas flare (EU: G27) capable of burning at 57.6 MMBtu/hr. The landfill gas collection system is designed to capture approximately 75 percent of the landfill gas generated, leaving approximately 25 percent as fugitive emissions. The landfill gas (LFG) goes through a Paques THIOPAQ desulfurization system to remove H₂S from the LFG prior to the LFG going to the flares, which will reduce the SO₂ emissions from the flare stacks. The LFG may pass through activated carbon vessels for additional polishing when needed. For the purposes of heating food waste for the pig farm, Apex Regional Landfill will employ boilers.

The source is subject to 40 CFR Part 60, Subpart WWW, and 40 CFR Part 63, Subpart AAAA. The source will meet the requirements of Subpart AAAA by meeting the requirements of Subpart WWW and the approved gas collection and control design plan.

The Renewable Energy portion of the source is located within the boundaries of the Apex Waste Management site. The source operates two 5.334 MW landfill gas turbines with Selective Catalytic Reduction (SCR) and one flare (with propane pilot fuel) for combustion of landfill gas (LFG) during the siloxane removal system regeneration cycle. The two gas turbines are subject to the regulatory requirements of 40 CFR Part 60, Subpart KKKK, and 40 CFR Part 63, Subpart YYYY.

The following table identifies the source’s status based on its potential to emit each regulated air pollutant. These PTE values are not intended to be enforced as emission limits by direct measurement unless otherwise noted in Section III of this permit.

Source PTE (tons per year)¹

	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAPs	H ₂ S
Source PTE – Fugitives	221.53	27.71	5.50	29.11	0.00	36.54	32.16	147.27
Source PTE – Non Fugitives	41.83	30.01	122.41	250.25	167.48	38.75	2.06	0.44
Source PTE	263.35	57.72	127.91	279.36	167.48	75.29	34.22	147.71

¹Not a source-wide emission limit.

Pursuant to AQR 12.5, all terms and conditions in Sections I through IV and the attachments in this operating permit are federally enforceable unless explicitly denoted otherwise.

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I. ACRONYMS AND ABBREVIATIONS

Term	Description
Air Quality	Clark County Division of Air Quality
ANFO	ammonium nitrate fuel oil
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct
BH	baghouse
CAAA	Clean Air Act, as amended
CARB	California Air Resources Board
CFR	United States Code of Federal Regulations
CO	carbon monoxide
DOC	diesel oxidation catalyst
EPA	United States Environmental Protection Agency
EO	Executive Order
EU	emission unit
°F	degrees Fahrenheit
GDO	gasoline dispensing operation
HAP	hazardous air pollutant
HP	horsepower
H ₂ S	hydrogen sulfide
kW	kilowatt
LFG	landfill gas
LHV	lower heating value
MMBtu	Millions of British Thermal Units
M/N	model number
MSWL	municipal solid waste landfill
MW	molecular weight
NAICS	North American Industry Classification System
NMOC	non-methane organic compounds
NO _x	nitrogen oxides
NRS	Nevada Revised Statutes
OP	operating permit
Plan	Landfill Gas Collection and Control System Design Plan
PM _{2.5}	particulate matter less than 2.5 microns
PM ₁₀	particulate matter less than 10 microns
ppm	Parts per million
ppmvd	parts per million, volumetric dry
PTE	potential to emit
RSRE	Republic Services Renewable Energy
scf	standard cubic feet
SCR	selective catalytic reduction

Term	Description
SIC	Standard Industrial Classification
S/N	serial number
SO ₂	sulfur dioxide
SSM	startup, shutdown, and malfunction
TRS	total reduced sulfur
VMT	vehicle miles traveled
VOC	volatile organic compound

II. GENERAL CONDITIONS

A. GENERAL REQUIREMENTS

1. The permittee shall comply with all conditions of the Part 70 Operating Permit (OP). Any permit noncompliance may constitute a violation of the Clark County Air Quality Regulations (AQRs), Nevada law, and the Clean Air Act, and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a renewal application. *[AQR 12.5.2.6(g)(1)]*
2. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall be unaffected and remain valid. *[AQR 12.5.2.6(f)]*
3. The permittee shall pay all permit fees pursuant to AQR 18. *[AQR 12.5.2.6(h)]*
4. This permit does not convey property rights of any sort, or any exclusive privilege. *[AQR 12.5.2.6(g)(4)]*
5. The permittee agrees to allow inspection of the premises to which this permit relates by any authorized representative of the Control Officer at any time during the permittee's hours of operation without prior notice. The permittee shall not obstruct, hamper, or interfere with any such inspection. *[AQR 4.1; AQR 5.1.1; AQR 12.5.2.8(b)]*
6. The permittee shall allow the Control Officer, upon presentation of credentials, to: *[AQR 4.1 & AQR 12.5.2.8(b)]*
 - a. Access and copy any records that must be kept under the conditions of the permit;
 - b. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - c. Sample or monitor substances or parameters for the purpose of assuring compliance with the permit or applicable requirements; and
 - d. Document alleged violations using such devices as cameras or video equipment.
7. Any permittee who fails to submit relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit the needed supplementary facts or corrected information. In addition, the permittee shall provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit. A responsible official shall certify the additional information consistent with the requirements of AQR 12.5.2.4. *[AQR 12.5.2.2]*
8. Anyone issued a permit under AQR 12.5 shall post it in a location where it is clearly visible and accessible to facility employees and DAQ representatives. *[AQR 12.5.2.6(m)]*

B. MODIFICATION, REVISION, RENEWAL REQUIREMENTS

1. No person shall begin actual construction of a new Part 70 source, or modify or reconstruct an existing Part 70 source that falls within the preconstruction review applicability criteria, without first obtaining an Authority to Construct (ATC) from the Control Officer. *[AQR 12.4.1.1(a)]*
2. The permit may be revised, revoked, reopened and reissued, or terminated for cause by the Control Officer. The filing of a request by the permittee for a permit revision, revocation, reissuance, or termination, or of a notification of planned changes or anticipated noncompliance, does not stay any permit condition. *[AQR 12.5.2.6(g)(3)]*
3. The permit shall be reopened under any of the following circumstances and when all applicable requirements pursuant to AQR 12.5.2.15 are met: *[AQR 12.5.2.15(a)]*
 - a. New applicable requirements become applicable to a Part 70 source that is a major stationary source under Section 12.2, Section 12.3, or 40 CFR 70.3(a)(1) with a remaining permit term of three (3) or more years;
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under the Acid Rain Program;
 - c. The Control Officer or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
 - d. The Administrator or the Control Officer determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
4. A permit, permit revision, or renewal may be approved only if all of the following conditions have been met: *[AQR 12.5.2.10(a)]*
 - a. The permittee has submitted to the Control Officer a complete application for a permit, permit revision, or permit renewal (except a complete application need not be received before a Part 70 general permit is issued pursuant to AQR 12.5.2.20); and
 - b. The conditions of the permit provide for compliance with all applicable requirements and the requirements of AQR 12.5.
5. The permittee shall not build, erect, install, or use any article, machine, equipment, or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission that would otherwise constitute a violation of an applicable requirement. *[AQR 80.1 and 40 CFR Part 60.12]*
6. No permit revisions shall be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit. *[AQR 12.5.2.6(i)]*
7. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application has been submitted. *[AQR 12.5.2.11(b)]*

8. For purposes of permit renewal, a timely application is a complete application that is submitted at least six months, but not more than 18 months, prior to the date of permit expiration. If a source submits a timely application under this provision, it may continue operating under its current Part 70 OP until final action is taken on its application for a renewed Part 70 OP. *[AQR 12.5.2.1(a)(2)]*

C. REPORTING/NOTIFICATIONS/PROVIDING INFORMATION REQUIREMENTS

1. The permittee shall submit all compliance certifications to the U.S. Environmental Protection Agency (EPA) and to the Control Officer. *[AQR 12.5.2.8(e)(4)]*
2. Any application form, report, or compliance certification submitted to the Control Officer pursuant to the permit or the AQRs, shall contain a certification by a responsible official, with an original signature, of truth, accuracy, and completeness. This certification, and any other required under AQR 12.5, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *[AQR 12.5.2.6(l)]*
3. The permittee shall furnish to the Control Officer, in writing and within a reasonable time, any information that the Control Officer may request to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Control Officer copies of records the permit requires keeping. The permittee may furnish records deemed confidential directly to the Administrator, along with a claim of confidentiality. *[AQR 12.5.2.6(g)(5)]*
4. Upon request of the Control Officer, the permittee shall provide information or analyses that will disclose the nature, extent, quantity, or degree of air contaminants that are or may be discharged by the source, and the type or nature of control equipment in use. The Control Officer may require that such disclosures be certified by a professional engineer registered in the state. In addition to this report, the Control Officer may designate an authorized agent to make an independent study and report on the nature, extent, quantity, or degree of any air contaminants that are or may be discharged from the source. An agent so designated may examine any article, machine, equipment, or other contrivance necessary to make the inspection and report. *[AQR 4.1]*
5. The permittee shall submit annual emissions inventory reports based on the following: *[AQR 18.6.1 and AQR 12.5.2.4]*
 - a. The annual emissions inventory must be submitted to DAQ by March 31 of each calendar year (if March 31 falls on a Saturday or Sunday, or on a Nevada or federal holiday, the submittal shall be due on the next regularly scheduled business day);
 - b. The calculated actual annual emissions from each emission unit shall be reported, even if there was no activity, along with the total calculated actual annual emissions for the source based on the emissions calculation methodology used to establish the potential to emit (PTE) in the permit or an equivalent method approved by the Control Officer prior to submittal; and

- c. based on information and belief formed after reasonable inquiry, the statements contained in this document are true, accurate, and complete.” This statement shall be signed and dated by a responsible official of the company (a sample form is available from DAQ).
6. Stationary sources that emit 25 tons or more of nitrogen oxide (NO_x) and/or emit 25 tons or more of volatile organic compounds (VOC) from their emission units, insignificant activities and exempt activities during a calendar year shall submit an annual emissions statement for both pollutants. Emissions statements must include actual annual NO_x and VOC emissions from all activities, including emission units, insignificant activities and exempt activities. Emissions statements are separate from, and additional to, the calculated annual emissions reported each year for all regulated air pollutants (aka Emissions Inventory). *[AQR 12.9.1]*

D. COMPLIANCE REQUIREMENTS

1. The permittee shall not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[AQR 12.5.2.6(g)(2)]*
2. Any person who violates any provision of the AQRs, including, but not limited to, any application requirement; any permit condition; any fee or filing requirement; any duty to allow or carry out inspection, entry, or monitoring activities; or any requirements from DAQ is guilty of a civil offense and shall pay a civil penalty levied by the Air Pollution Control Hearing Board and/or the Hearing Officer of not more than \$10,000. Each day of violation constitutes a separate offense. *[AQR 9.1; NRS 445B.640]*
3. Any person aggrieved by an order issued pursuant to AQR 9.1 is entitled to review, as provided in Chapter 233B of the NRS. *[AQR 9.12]*
4. The permittee shall comply with the requirements of Title 40, Part 61 of the Code of Federal Regulations (40 CFR Part 61), Subpart M—the National Emission Standard for Asbestos—for all demolition and renovation projects. *[AQR 13.1(b)(8)]*
5. The permittee shall certify compliance with the terms and conditions contained in this Part 70 OP, including emission limitations, standards, work practices, and the means for monitoring such compliance. *[AQR 12.5.2.8(e)]*
6. The permittee shall submit compliance certifications annually in writing to the Control Officer (4701 W. Russell Road, Suite 200, Las Vegas, NV 89118) and the Region 9 Administrator (Director, Air and Radiation Divisions, 75 Hawthorne St., San Francisco, CA 94105). A compliance certification for each calendar year will be due on January 30 of the following year, and shall include the following: *[AQR 12.5.2.8(e)]*
 - a. The identification of each term or condition of the permit that is the basis of the certification;
 - b. The identification of the methods or other means used by the permittee for determining the compliance status with each term and condition during the certification period. These methods and means shall include, at a minimum, the monitoring and related recordkeeping and reporting requirements described in 40 CFR Part 70.6(a)(3). If

- necessary, the permittee shall also identify any other material information that must be included in the certification to comply with Section 113(c)(2) of the Clean Air Act, which prohibits knowingly making a false certification or omitting material information; and
- c. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the methods or means designated in (b) above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify, as possible exceptions to compliance, any periods during which compliance was required and in which an excursion or exceedance, as defined under 40 CFR Part 64, occurred.
7. The permittee shall report to the Control Officer any startup, shutdown, malfunction, emergency, or deviation that causes emissions of regulated air pollutants in excess of any limits set by regulations or this permit. The report shall be in two parts, as specified below: *[AQR 12.5.2.6(d)(4)(B); AQR 25.6.1]*
 - a. Within 24 hours of the time the permittee learns of the excess emissions, the permittee shall notify DAQ by phone at (702) 455-5942, by fax at (702) 383-9994, or by email at airquality@clarkcountynv.gov.
 - b. Within 72 hours of the notification required by paragraph (a) above, the permittee shall submit a detailed written report to DAQ containing the information required by AQR 25.6.3.
 8. With the semiannual monitoring report, the permittee shall report to the Control Officer all deviations from permit conditions that do not result in excess emissions, including those attributable to malfunction, startup, or shutdown. Reports shall identify the probable cause of each deviation and any corrective actions or preventative measures taken. *[AQR 12.5.2.6(d)(4)(B)]*
 9. The owner or operator of any source required to obtain a permit under AQR 12 shall report to the Control Officer emissions in excess of an applicable requirement or emission limit that pose a potential imminent and substantial danger to public health and safety or the environment as soon as possible, but no later than 12 hours after the deviation is discovered, and submit a written report within two days of the occurrence. *[AQR 25.6.2]*

E. PERFORMANCE TESTING REQUIREMENTS

1. Upon request of the Control Officer, the permittee shall test (or have tests performed) to determine emissions of air contaminants from any source whenever the Control Officer has reason to believe that an emission in excess of those allowed by the AQRs is occurring. The Control Officer may specify testing methods to be used in accordance with good professional practice. The Control Officer may observe the testing. All tests shall be conducted by reputable, qualified personnel. *[AQR 4.2]*
2. Upon request of the Control Officer, the permittee shall provide necessary holes in stacks or ducts and such other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices, as may be necessary for proper determination of the emission of air contaminants. *[AQR 4.2]*

3. The permittee shall submit to the Control Officer for approval a performance testing protocol that contains testing, reporting, and notification schedules, test protocols, and anticipated test dates no less than 45 days, but no more than 90 days, before the anticipated date of the performance test unless otherwise specified in Section III.E of this permit. [AQR 12.5.2.8]
4. The permittee shall submit to EPA for approval any alternative test methods EPA has not already approved to demonstrate compliance with a requirement under 40 CFR Part 60. [40 CFR Part 60.8(b)]
5. The permittee shall submit a report describing the results of each performance test to the Control Officer within 60 days of the end of the test. [AQR 12.5.2.8]

III. EMISSION UNITS AND APPLICABLE REQUIREMENTS

[NSR ATC/OP Modification 4, Revision 1, Section IV-A (12/03/2008); NSR ATC Modification 5, Revision 0, Section IV-A-1 (12/31/2010); Modification 8, Revision 1, Section IV-A, (05/13/2010); AQR 12.4.3.2(b)/AQR 12.5.2.14(a); NSR ATC Section IV-A (01/10/2012); and NSR ATC Section IV-A (09/12/2013); Part 70 OP (07/12/2018) and (06/19/2020); 16539 NSR ATC Condition IV-A-1 (05/19/2014); and Application for Minor Revision of Part 70 OP (04/15/2021)]

A. EMISSION UNITS

1. The stationary source covered by this Part 70 OP consists of the emission units and associated appurtenances summarized in Table III-A-1. [AQR 12.5.2.3]

Table III-A-1: List of Emission Units

EU	Description	Rating	Manufacturer	Model No.	Serial No.
Primary Plant					
A01	Material Unloading	4,825 tons/hr			
A02	Grizzly 1	1,650 tons/hr			
A04	Primary Crusher 1	600 tons/hr	Crush Boss	HSI 400	6356511
A07	Belt System (2 Belts)				
A08	Grizzly 2	600 tons/hr			
A09	Primary Crusher 2	600 tons/hr	Crush Boss	HSI 400	6356536
A12	Belt System (5 Belts)				
A16	Stacker S1				
A17	Belt System (7 Belts)				
A22	Stacker S2				
Gabion Plant					
A23	Belt 13				
A25	Gabion Screen SC1	800 tons/hr	Cedar Rapids	6x16 TD	46531
A27	Belt 14				
A28	Stacker S3				
A30	Belt 15				
A31	Stacker S4				
A33	Belt 16				
A34	Stacker S5				
Secondary Plant					
A35	Belt System (2 Belts)				

EU	Description	Rating	Manufacturer	Model No.	Serial No.
A37	Triple Deck Screen SC2	600 tons/hr	JCI	6x20 TD	SAD1554A
A38	Triple Deck Screen SC3	600 tons/hr	JCI	6203-32	97412D32
A40	Belt System (3 Belts)				
A42	Stacker S6				
A44	Belt System (2 Belts)				
A46	Stacker S7				
A47	Belt Feeders System (2 Belts)				
A49	Belt System (2 Belts)				
A51	Stacker S8				
A52	Belt Feeders System (2 Belts)				
A58	HSI 1 Crusher	400 tons/hr	Crush Boss	HSI 400	101400
A60	Recirculation Belt 33				
Sand Plant					
A62	VSI Crusher 1	200 tons/hr	CEMCO	70	AEV0300170
A65	Screen SC4	300 tons/hr	JCI	6x20 TD	96H05D32
A69	Belt System (3 Belts)				
A72	Stacker S9				
A74	Belt System (3 Belts)				
A77	Stacker S10				
A152	Air Separator	130 tons/hr	Fisher	13'	13-471
Cone Plant					
A79	Cone Crusher 1	300 tons/hr	Nordberg	HP 300	30310657
A82	Triple Deck Screen SC5	450 tons/hr	JCI	6203-32LP	R061494
A83	Triple Deck Screen SC6	450 tons/hr	JCI	7x20 TD	43J0491
A85	Belt System (2 Belts)				
A87	Stacker S11				
A89	Belt System (4 Belts)				
A93	Stacker S12				
A95	Belt System (2 Belts)				
A98	Belt System (5 Belts)				
A102	Stacker S13				
A104a	VSI Crusher 2	150 tons/hr	CEMCO	80	ADEV0399180V
Wash Plant					
A106	Belt Feeder System (2 Belts)				
A108	Triple Deck Screen SC7	605 tons/hr	JCI	6203-32LP	5173980
A109	Triple Deck Screen SC8	605 tons/hr	Cedar Rapids	TSS 6203-32	54400
A112	Sand Screw 1	70 tons/hr			
A113	Sand Screw 2	70 tons/hr			
A114	Belt System (2 Belts)				
A116	Stacker S14				
A118	Belt 60				
A119	Stacker S15				
A122	Belt System (2 Belts)				
A124	Storage Hopper				

EU	Description	Rating	Manufacturer	Model No.	Serial No.
A125	Belt 63				
A126	Rock Truck Dumping				
Landfill Cover Plant					
A127	Blasting	24,200 ft ² blast			
	Drilling	4,680 holes/yr			
A128	Grizzly 3	1,800 tons/hr			
A130	Primary Crusher 2	400 tons/hr	Crush Boss	400	400504
A133	Belt System (2 Belts)				
A136	Screen SC9	1,800 tons/hr	Cedar Rapids	8x20 TD	46531
A138	Belt System (3 Belts)				
A141	Stacker S16				
A143	Belt System (2 Belts)				
A145	Stacker S17				
A147	Belt System (2 Belts)				
A149	Stacker S18				
A151	Cone Crusher 2	200 tons/hr	Svedala	S-3000	03JA08802
Haul Roads					
H01	Haul Road, Paved				
H02	Haul Road, Unpaved				
MSWL					
G27	Open Combustion Flare	1,920 scfm; 57.6 MMBtu/hr	John Zink	Elevated ZEF Gas Flare w/ Blower Skid	BF9113501
W01	Soil Treatment Bulk Material Unloading				
	Stationary Grizzly Deck				
	Material Transfer to Soil Treatment Cell				
	Soil Transfer from Soil Treatment Cell				
W02	Soil Treatment Waste Processing				
W05	Cover Material Handing for Waste Placement				
W06	1-2,500 aboveground gasoline storage tank, Regular				
W08	Waste Placement				
W09	Stockpiles: Active/Inactive (cover material)	123.11 acres			
W11	Enclosed Combustion LFG Flare	5,000 scfm, 136.605 MMBtu/hr	John Zink	Zule Zink Low Emission Flare	9108785
W100	Fugitive Emissions from Landfill (based on 2014 -2019 Estimates)				
W214	Genset – Continuous Duty	186 kW	Cummins	QSB7-G3 NR3	73179759
	Engine – Diesel, DOM:2010	250 hp			
W215	Genset – Continuous Duty	186 kW	Cummins	MMG175	73463856
	Engine – Diesel, DOM:2009	250 hp			
W217	Genset – Continuous Duty	133 kW	John Deere	4045	4045R008156
	Engine – Diesel, DOM:2011	175 hp			

EU	Description	Rating	Manufacturer	Model No.	Serial No.
W219	Genset – Continuous Duty	180 kW	John Deere	6068HFG94	PE6068R004833
	Engine – Diesel, DOM:2012	241 hp			
W222	Diesel Tipper Engine (Grey) DOM: 2016	173 hp	CAT	3056E	35601941
W223	Diesel Tipper Engine (Orange) DOM: 2012	173 hp	John Deere	4045HFC93	PE4045R008156
W224	Diesel Tipper Engine (Red) DOM: 2012	173 hp	John Deere	4045HFC93	PE4045Z007547
W225	Diesel Tipper Engine (White) DOM: 2016	173 hp	John Deere	4045HFC93	PE4045H672600
W226	Diesel Tipper Engine (Backup)	375 hp	John Deere	4.6 Tier IV	JKT08784
W227	Diesel Tipper Engine	172 hp	Caterpillar	C4.4	TBD
W228	Diesel Tipper Engine	172 hp	Caterpillar	C4.4	TBD
Pig Farm					
P01	Diesel Steam Boiler	5.0 MMBtu/hr	Fulton	VTG5000DF	90794
P02	Propane Boiler	3.348 MMBtu/hr	Kewanee	Classic III H3S	24315
P03	Propane Boiler	5.231 MMBtu/hr	Kewanee	Classic III H3S	33943
P04	Diesel Engine DOM: Post-2014	750 kW 850 hp	CAT	C27	T4Z00354
Landfill Gas to Energy					
E01	Gas Turbine Electrical Generating Package Simple Cycle	5.334 MW (66.4 MMBtu/hr)	Solar Taurus	60-7901	TG11146
E02	Gas Turbine Electrical Generating Package Simple Cycle	5.334 MW (66.4 MMBtu/hr)	Solar Taurus	60-7901	TG11147
E03	Enclosed Landfill Gas Flare	4.0 MMBtu/hr	John Zink Co.	ZTOF	9108856

B. EMISSION LIMITATIONS AND STANDARDS

1. Emission Limits

Aggregate Plant

- a. The permittee shall not allow actual emissions from each emission unit at the aggregate plant to exceed the PTE listed in Table III-B-1 in any consecutive 12-month period. [NSR ATC/OP Modification 4, Revision 1, Section IV-B (12/03/2008); NSR ATC Modification 5, Revision 0, Section IV-B-2 (12/31/2010); and Application for Minor Revision of Part 70 OP (04/15/2021)]

Table III-B-1: Aggregate Plant PTE (tons per year)

EU	Condition ¹	PM ₁₀	PM _{2.5}
Primary Plant			
A01	4,200,000 tons/yr	0.19	0.05
A02	2,400,000 tons/yr	0.02	0.01
A04	2,100,000 tons/yr	0.06	0.06
A07	2,400,000 tons/yr	0.11	0.03
A08	1,800,000 tons/yr	0.01	0.01
A09	1,800,000 tons/yr	0.05	0.05
A12	2,400,000 tons/yr	0.28	0.08

A16	4,200,000 tons/yr	0.10	0.03
A17	4,200,000 tons/yr	0.68	0.19
A22	4,200,000 tons/yr	0.10	0.03
Gambion Plant			
A23	1,000,000 tons/yr	0.02	0.01
A25	1,000,000 tons/yr	0.37	0.01
A27	600,000 tons/yr	0.01	0.01
A28	600,000 tons/yr	0.01	0.01
A30	300,000 tons/yr	0.01	0.01
A31	300,000 tons/yr	0.01	0.01
A33	300,000 tons/yr	0.01	0.01
A34	300,000 tons/yr	0.01	0.01
Secondary Plant			
A35	2,500,000 tons/yr	0.06	0.02
A37	2,475,000 tons/yr	0.92	0.06
A38	2,475,000 tons/yr	0.92	0.06
A40	2,250,000 tons/yr	0.15	0.04
A42	2,250,000 tons/yr	0.05	0.01
A44	1,125,000 tons/yr	0.08	0.02
A46	1,125,000 tons/yr	0.03	0.01
A47	1,125,000 tons/yr	0.05	0.01
A49	1,500,000 tons/yr	0.07	0.02
A51	1,500,000 tons/yr	0.03	0.01
A52	1,500,000 tons/yr	0.07	0.02
A58	1,500,000 tons/yr	0.13	0.13
A60	1,500,000 tons/yr	0.03	0.01
Sand Plant			
A62	1,100,000 tons/yr	0.09	0.09
A65	1,100,000 tons/yr	0.41	0.03
A69	343,750 tons/yr	0.02	0.01
A72	343,750 tons/yr	0.01	0.01
A74	687,500 tons/yr	0.05	0.01
A77	687,500 tons/yr	0.02	0.01
A152	782,925 tons/yr	0.43	0.43
Cone Plant			
A79	1,400,000 tons/yr	0.19	0.19
A82	1,400,000 tons/yr	0.52	0.04
A83	1,400,000 tons/yr	0.52	0.04
A85	420,000 tons/yr	0.02	0.01
A87	420,000 tons/yr	0.01	0.01
A89	1,050,000 tons/yr	0.10	0.03
A93	1,050,000 tons/yr	0.02	0.01
A95	700,000 tons/yr	0.03	0.01
A98	1,470,000 tons/yr	0.11	0.04
A102	1,050,000 tons/yr	0.02	0.01
A104a	420,000 tons/yr	0.13	0.13
Wash Plant			
A106	2,850,000 tons/yr	0.07	0.02
A108	1,995,000 tons/yr	0.01	0.01
A109	1,995,000 tons/yr	0.01	0.01
A112	342,000 tons/yr	0.01	0.01
A113	342,000 tons/yr	0.01	0.01
A114	570,000 tons/yr	0.01	0.01
A116	570,000 tons/yr	0.01	0.01
A118	2,565,000 tons/yr	0.01	0.01
A119	2,565,000 tons/yr	0.01	0.01
A122	570,000 tons/yr	0.01	0.01

A124	570,000 tons/yr	0.01	0.01
A125	570,000 tons/yr	0.01	0.01
A126	570,000 tons/yr	0.01	0.01
Landfill Cover Plant			
A128	1,000,000 tons/yr	0.01	0.01
A130	1,000,000 tons/yr	0.09	0.09
A133	3,000,000 tons/yr	0.19	0.05
A136	3,000,000 tons/yr	1.11	0.08
A138	2,000,000 tons/yr	0.14	0.04
A141	2,000,000 tons/yr	0.05	0.01
A143	1,000,000 tons/yr	0.05	0.01
A145	1,000,000 tons/yr	0.02	0.01
A147	500,000 tons/yr	0.02	0.01
A149	500,000 tons/yr	0.01	0.01
A151	500,000 tons/yr	0.09	0.09

¹The quantities in this column are not intended as enforceable permit limits unless stated otherwise in this permit.

- b. The permittee shall not discharge into the atmosphere, from any emission unit at the aggregate plant, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes, unless otherwise required by this permit. *[AQR 26.1]*
- c. The permittee shall not discharge into the atmosphere fugitive dust emissions from screens, conveyors and transfer points that commenced construction, modification or reconstruction after April 22, 2008 in excess of an average of 7 percent opacity for a period of more than 6 consecutive minutes (EUs: A02, A07, A08, A12, A16, A17, A22, A23, A25, A27, A28, A30, A31, A33, A34, A35, A37, A38, A40, A42, A44, A46, A47, A49, A51, A52, A60, A65, A69, A72, A74, A77, A152, A82, A83, A85, A87, A89, A93, A95, A98, A102, A106, A128, A133, A136, A138, A141, A143, A145, A147 and A149). *[40 CFR Part 60, Subpart OOO]*
- d. The permittee shall not discharge into the atmosphere fugitive dust emissions from the baghouses connected to crushers that commenced construction, modification or reconstruction after April 22, 2008 in excess of an average of 7 percent opacity for a period of more than 6 consecutive minutes (EUs: A04, A09, A58, A62, A79, A104a, A130 and A151). *[40 CFR Part 60, Subpart OOO]*
- e. The permittee shall not discharge into the atmosphere visible emissions from emission units specified in this document as either an enclosed or wet process (EUs: A108, A109, A112, A113, A114, A116, A118, A119, A122, A124, A125 and A126). *[NSR ATC Modification 5, Revision 0, Condition IV-A-2(e) (12/31/2010)]*
- f. The permittee shall not allow actual stack emissions from each baghouse for emission units that commenced construction, modification or reconstruction after April 22, 2008, to exceed the concentration rates listed in Table III-B-2. *[40 CFR Part 60, Subpart OOO]*
- g. The permittee shall not allow actual emissions from each emission unit to exceed the mass emission rates and concentrations listed in Table III-B-2. *[NSR ATC Modification 5, Revision 0, Section IV-A-2(g) (12/31/2010) and Settlement Agreement (07/19/2016)]*

Table III-B-2: Emission Rates and Concentrations Aggregate Plant

EU	PM ₁₀ Mass Emission Rate ¹ (pounds per hour)	PM Stack Emission Concentrations	
		(g/dscm)	(gr/dscf)
A04	0.069	0.032	0.014
A09	0.069	0.032	0.014
A79	0.179	0.032	0.014
A104a	0.179	0.032	0.014
A58/A130	0.170	0.032	0.014
A62/A151	0.111	0.032	0.014

¹Emissions limits for process equipment controlled by baghouses in Aggregate Plant are limited to an emission rate equal to 25% of the 40 CFR Part 60, Subpart OOO as delineated in the July 19, 2016, Settlement Agreement.

Blasting/Drilling

- h. The permittee shall not allow actual emissions from blasting and drilling operations (EU: A127) to exceed the PTE listed in Table III-B-3 in any consecutive 12-month period. [NSR ATC/OP Modification 4, Revision 1, Section IV-B (12/03/2008); NSR ATC Modification 5, Revision 0, Section IV-A (12/31/2010); and Part 70 OP (06/19/2020)]

Table III-B-3: PTE Blasting and Drilling (tons per year)

EU	Condition ¹	PM ₁₀	PM _{2.5}	NO _x	CO
A127	17,300 ft ² /blast 100 blast/yr	0.83	0.05	0.00	0.00
	1,418 ton/yr ANFO	0.00	0.00	5.50	29.11
	4,680 holes/yr	1.59	0.09	0.00	0.00

¹The quantities in this column are not intended as enforceable permit limits unless stated otherwise in this permit.

MSWL

- i. The permittee shall not allow actual emissions from each emission unit to exceed the PTE listed in Table III-B-4 in any consecutive 12-month period. [NSR ATC/OP Modification 4, Revision 1, Section IV-B (12/03/2008); NSR ATC Modification 5, Revision 0, Section IV-A (12/31/2010); Modification 8, Revision 1, Section IV-A-2, (05/13/2010); NSR ATC Section IV-A-2 (09/12/2013); Part 70 OP (06/19/2020); Application for Minor Revision of Part 70 OP (04/15/2021); and AQR 12.4.3.2(b)/AQR 12.5.2.14(a)]

Table III-B-4: PTE MSWL (tons per year)

EU	Condition ¹	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
G27	187,200,000 scf/yr	0.80	0.80	3.18	17.32	61.68	0.52	0.23
H01	1,237,592 VMT/yr	93.69	14.11	0.00	0.00	0.00	0.00	0.00
H02	321,920 VMT/yr	121.85	12.35	0.00	0.00	0.00	0.00	0.00
W01	20,000 tons/yr	0.26	0.08	0.00	0.00	0.00	0.00	0.00
W02	20,000 tons/yr	0.00	0.00	0.00	0.00	0.00	2.78	0.00
W05	1,525,951 tons/yr	6.15	1.84	0.00	0.00	0.00	0.00	0.00
W06	61,771 gal/yr	0.00	0.00	0.00	0.00	0.00	0.40	0.01
W08	13,008,600 tons/yr	1.04	0.33	0.00	0.00	0.00	0.00	0.00
W09	77.03 acres (active) 46.08 acres (inactive)	3.58	1.11	0.00	0.00	0.00	0.00	0.00
W11	2,099,246,400 scf/yr	8.92	8.92	13.12	31.49	53.85	5.88	0.56

EU	Condition ¹	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
W214	8,760 hr/yr	0.36	0.36	7.24	6.28	2.24	2.75	0.05
W215	8,760 hr/yr	0.36	0.36	7.24	6.28	2.24	2.75	0.05
W217	8,760 hr/yr	0.25	0.25	4.41	2.02	1.57	1.93	0.03
W219	8,760 hr/yr	0.03	0.03	3.47	6.07	0.01	0.33	0.03
W222	35,040 hr/yr	0.48	0.48	9.61	31.94	0.05	1.64	0.12
W223								
W224								
W225								
W226								
W227	8,760 hr/yr	0.02	0.02	0.50	4.33	0.01	0.24	0.03
W228	8,760 hr/yr	0.02	0.02	0.50	4.33	0.01	0.24	0.03

¹The quantities in this column are not intended as enforceable permit limits unless stated otherwise in this permit.

- j. The permittee shall operate the open combustion flare (EU: G27) with no visible emissions as determined by the methods specified in Section III-C of this permit, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours. [40 CFR 60.18(c)(1)]
- k. The permittee shall calculate fugitive emissions from the landfill (EU: W100) on the assumption that 25 percent of the LFG generated is not captured by the capture and collection system. Recalculation of the fugitive emissions from the landfill shall be carried out, based on the actual amount of refuse in place, every five years (estimated fugitive emissions were updated in 2019). [AQR 12.5.2.6(a)]
- l. The permittee shall not allow actual fugitive emissions from the landfill (EU: W100) to exceed the PTE listed in Table III-B-5 in any consecutive 12-month period. [NSR ATC/OP Modification 4, Revision 1, Section IV-B (11/04/2008) and NSR ATC Modification 5, Revision 0, Section IV-B (12/31/2010)]

Table III-B-5: PTE MSWL Fugitive Emissions (tons per year)

EU	Description	Condition ¹	Pollutant	Maximum Emissions
W100	Fugitive Emissions from Municipal Landfill and Industrial Waste	LFG generation rate of 4,110 scfm	VOC (including HAP)	36.54
			HAP	32.16
			H ₂ S	147.27

¹The quantities in this column are not intended as enforceable permit limits unless stated otherwise in this permit. LandGEM estimates based on a methane concentration of 50%, adjusted LFG generation rate (year 2023) of 4,110 scfm, and a LFG collection system efficiency of 75%.

Fugitive Dust

- m. The permittee shall maintain paved haul roads so not to discharge into the atmosphere fugitive dust emissions in excess of an average opacity of 20 percent for a period of more than 6 consecutive minutes (EU: H01). [AQR 26.1]
- n. The permittee shall maintain the unpaved haul roads so not to discharge into the atmosphere fugitive dust emissions in excess of an average opacity of 20 percent for a period of more than 6 consecutive minutes (EU: H02). [AQR 26.1]

- o. The permittee shall not cause or allow fugitive dust from trackout, which includes accumulation of mud or dirt on curbs, gutters, sidewalks, or paved surfaces, or from the handling, transport, or storage of any material in a manner that allows visible emissions of particulate matter to: *[AQR 94.14(a) & AQR 94.14(e)]*
 - a. Exceed 20% opacity using the Time Averaged Method (AQR 94.15.2) or the Intermittent Emissions Method (AQR 94.15.3);
 - b. Exceed 50% opacity using the Instantaneous Method (AQR 94.15.4);
 - c. Extend more than 100 feet; or
 - d. Cross a property line.
- p. The permittee shall not allow fugitive dust emissions from unpaved parking lots or storage areas of more than 5,000 square feet to exceed: *[AQR 92.4(a)]*
 - e. 20% opacity based on the Opacity Test Method (AQR 92.6.1); or
 - f. 50% opacity based on the Instantaneous Method (AQR 92.6.1.2).
- q. The permittee shall not allow a fugitive dust plume from an unpaved parking lot or storage area of more than 5,000 square feet to cross a property line. *[AQR 92.4(b)]*
- r. The permittee shall not discharge into the atmosphere, from any emission unit at the MSWL, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes, unless otherwise required by this permit. *[AQR 26.1]*

Pig Farm

- s. The permittee shall not allow actual emissions from each emission unit to exceed the PTE listed in Table III-B-6 in any consecutive 12-month period. *[Part 70 OP (10/31/18) and Part 70 OP (06/19/2020)]*

Table III-B-6: Emission Unit PTE (tons per year)

EU	Condition ¹	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
P01	8,760 hr/yr	0.16	0.16	3.20	0.80	0.03	0.03	0.01
P02	8,760 hr/yr	0.11	0.11	2.08	1.20	0.01	0.16	0.01
P03	8,760 hr/yr	0.18	0.18	3.26	1.88	0.01	0.25	0.01
P04	2,920 hr/yr	0.06	0.06	1.37	7.11	0.01	0.38	0.03

¹The quantities in this column are not intended as enforceable permit limits unless stated otherwise in this permit.

- t. The permittee shall not discharge into the atmosphere, from any emission unit at the Pig Farm, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes, unless otherwise required by this permit. *[AQR 26.1]*

Landfill Gas to Energy

- u. The permittee shall not allow actual emissions from each emission unit to exceed the PTE listed in Table III-B-7 in any consecutive 12-month period. *[16539 NSR ATC (03/01/2018)]*

Table III-B-7: Emission Unit PTE (tons per year)

EU	Condition ¹	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
E01 ²	16,644 hr/yr	6.32	6.32	31.21	63.25	25.12	9.16	0.41
E02 ²	238,988 scf/hr	6.32	6.32	31.21	63.25	25.12	9.16	0.41
E03	6,750 hr/yr 9,000 scf/hr	0.68	0.68	0.81	2.70	1.54	0.15	0.02

¹The quantities in this column are not intended as enforceable permit limits unless stated otherwise in this permit.

²Annual emissions are based on 238,988 ft³/hour of LFG combustion and 16,644 hours of operation for the two turbines. (EUs: E01 and E02). The average fuel flow rate is 447 MMBtu/hr (LHV).

- v. The permittee shall not allow actual emissions from each emission unit to exceed the PTE listed in Table III-B-8. The limits are for normal operation which excludes startup and shutdown. [16539 NSR ATC (10/05/2010), (05/19/2014), and (03/01/2018)]

Table III-B-8: Emission Unit PTE, Excluding Startups and Shutdowns (pounds per hour)

EU	NO _x	CO
E01	7.50	15.20
E02	7.50	15.20

- w. The permittee shall not allow actual emissions from each emission unit to exceed the emission limits listed in Table III-B-9. The limits are for normal operation which excludes startup and shutdown. [16539 NSR ATC (10/05/2010), (05/19/2014), and (03/01/2018)]

Table III-B-9: Emission Concentrations Excluding Startup and Shutdown (@ 15% O₂)¹

EU	NO _x	CO
E01	24 ppmv	100 ppmv
E02	24 ppmv	100 ppmv

¹ NO_x and CO ppmv are the manufacturer guarantees.

- x. The permittee shall not allow actual emissions from each emission unit to exceed the emission limits listed in Table III-B-10. Compliance with the NO_x and SO₂ emission limits in Table III-B-10 ensures compliance with the NO_x and SO₂ emission limits from 40 CFR Part 60, Subpart KKKK. [40 CFR 60.4320(a), 40 CFR 60.4330(a)(3), and 40 CFR 60.4380(b)(1)]

Table III-B-10: Emission Concentrations (@ 15% O₂)¹

EU	NO _x	SO ₂
E01	25 ppmv	0.15 lbs/MMBtu
E02	25 ppmv	0.15 lbs/MMBtu

¹ The NO_x limit is based on a four-hour rolling average. The SO₂ limit is based on a daily average per 40 CFR 60.4330(a)(3).

- y. The permittee shall operate and maintain the stationary combustion turbines, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction. [40 CFR 60.4333(a)]
- z. The permittee shall not allow actual emission of SO₂ from the facility (EUs: E01, E02 and E03 combined) to exceed 19.2 lbs/hr. [16539 NSR ATC (03/01/2018)]
- aa. The permittee shall not discharge into the atmosphere from the flare (EU: E03) any visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [40 CFR 60.18(c)(1)]

2. Operational Limits

Aggregate Plant

- a. The permittee shall limit the amount of material processed at the aggregate plant to the production rates listed in Table III-B-11. [NSR ATC Modification 5, Revision 0, Condition IV-A-3(a) (12/31/2010) and Part 70 OP (07/12/2018)]

Table III-B-11: Maximum Allowable Production Throughputs (tons per year)

EU	Description	Plant	Throughput
A01	Mining/ Excavation	Primary Plant	4,200,000
A25	Gabion Screen	Gabion Plant	1,000,000
A37	Triple Deck Screen SC2	Secondary Plant	2,500,000
A38	Triple Deck Screen SC3	Secondary Plant	2,500,000
A62	VSI Crusher	Sand Plant	1,100,000
A79	Cone Crusher 1	Cone Plant	1,400,000
A108	Triple Deck Screen SC7	Wash Plant	2,000,000
A109	Triple Deck Screen SC8	Wash Plant	2,000,000
A130	Primary Crusher 2	Landfill Cover Plant	1,000,000
A136	Screen SC9	Landfill Cover Plant	3,000,000

- b. The permittee shall limit the number of blasts to 100 in any consecutive 12-month period (EU: A127). *[Part 70 OP (06/19/2020)]*
- c. The permittee shall limit the blasting operations to an average 17,300 square feet per blast in any consecutive 12-month period (EU: A127). *[Part 70 OP (06/19/2020)]*
- d. The permittee shall limit the consumption of ANFO for all blasting activities to 1,418 tons per any consecutive 12-month period (EU: A127). *[NSR ATC Modification 5, Revision 0 (12/31/2010)]*
- e. The permittee shall limit the drilling operations (EU: A127) to 4,680 holes per any consecutive 12-month period. *[Part 70 OP (06/19/2020)]*

MSWL

- f. The permittee shall limit the total vehicles miles traveled (VMT) on paved roads to 1,237,592 miles in any consecutive 12-month period (EU: H01). *[NSR ATC Modification 5, Revision 0, Condition IV-A-3(c) (12/31/2010)]*
- g. The permittee shall limit the total vehicles miles traveled (VMT) on unpaved roads to 321,920 miles in any consecutive 12-month period (EU: H02). *[NSR ATC Modification 5, Revision 0, Condition IV-A-3(d) (12/31/2010)]*
- h. The permittee shall limit the Soil Treatment Operation to 20,000 tons of material (total liquids and solids) in any consecutive 12-month period (EUs: W01 and W02). *[NSR ATC/OP Modification 4, Revision 1, Condition IV-A-6 (11/04/2008)]*
- i. The permittee shall limit the Cover Material Handling for waste placement to a total of 1,525,951 tons in any consecutive 12-month period (EU: W05). *[AQR 12.5.2.6(a)]*
- j. The permittee shall limit the throughput of gasoline products through the fuel storage tank to a total of 61,771 gallons in any consecutive 12-month period (EU: W06). *[NSR ATC Modification 8, Revision 1, Conditions IV-A-3(a and b) (05/13/2010)]*
- k. The permittee shall limit the actual throughput of landfill gas through the enclosed combustion flare to 2,099,246,400 cubic feet in any consecutive 12-month period (EU: W11). *[NSR ATC Condition IV-A-3(a) (01/10/2012)]*
- l. The permittee shall limit the throughput for the Waste Placement to 13,008,600 tons in any consecutive 12-month period (EU: W08). *[NSR ATC, Modification 5, Revision 0, Condition IV-A-3(e) (12/31/2010)]*

- m. The permittee shall limit the total area of cover material stockpiles to 77.03 acres of active stockpiles and 46.08 acres of inactive stockpiles (EU: W09). *[NSR ATC, Modification 5, Revision 0, Condition IV-A-3(f) (12/31/2010)]*
- n. The permittee shall limit the actual throughput of landfill gas through the open combustion flare to 187,200,000 cubic feet in any consecutive 12-month period (EU: G27). *[NSR ATC Condition IV-A-3-a (09/12/2013)]*
- o. The permittee shall not operate the open combustion flare (EU: G27) when the enclosed combustion flare (EU: W11) is operating. *[NSR ATC Condition IV-A-3-b (09/12/2013)]*
- p. The permittee shall route collected gas to the open combustion flare (EU: G27) only when the gas flow rate is lower than the optimal rate for the 5,000 scfm flare (EU: W11), or when the desulfurization control device is not operable due to maintenance or malfunction. *[NSR ATC Condition IV-A-3-c (09/12/2013)]*
- q. The permittee shall limit the combined operation of the tipper engines (EUs: W222 through W226) to 35,040 hours per any consecutive 12-months period. *[Part 70 OP (06/19/2020)]*

Pig Farm

- r. The permittee shall limit the operation of the diesel powered electric generator (EU: P04) to 2,920 hours per any consecutive 12-months period. *[Part 70 OP (06/19/2020)]*

Landfill Gas to Energy

- s. The permittee shall limit the combined hours of operation of the two turbines (EUs: E01 and E02) to 16,644 hours per any consecutive 12-month period. *[16539 NSR ATC (10/05/2010)]*
- t. The permittee shall limit the combined volume of fuel flow of the two turbines (EUs: E01 and E02) to 238,988 ft³ per hour. *[16539 Part 70 OP (08/28/2015)]*
- u. The permittee shall limit the duration of each startup event to 10 minutes. Startup shall be defined as the period beginning with ignition and lasting until a turbine has reached a continuous and stable operating level and the catalyst has reached 540°F. *[16539 NSR ATC (10/05/2010)]*
- v. The permittee shall limit the duration of each shutdown event to 10 minutes. Shutdown shall be defined as the period beginning with the lowering of the electric load of a turbine below 50 percent of nameplate capacity and ending when combustion has ceased. *[16539 NSR ATC (10/05/2010)]*
- w. The permittee shall limit hours of operation for the flare (EU: E03) to 6,750 hours per any consecutive 12-month period. *[16539 NSR ATC (05/19/2014)]*
- x. The permittee shall limit the fuel flow to the flare (EU: E03) to 9,000 ft³ per hour. *[16539 NSR ATC (05/19/2014)]*

3. Emission Controls

Aggregate Plant

- a. The permittee shall apply wet suppression to maintain moisture content and control emissions within allowable limits at the aggregate plant. Each mineral processing emission unit that is not connected to baghouse controls or part of the wet process shall incorporate an effective water spray system that is maintained in good operating condition at all times. *[NSR ATC Modification 5, Revision 0, Condition IV-B-1 (12/31/2010)]*

- b. The permittee shall not cause or allow fugitive dust to become airborne without taking reasonable precautions and shall not cause or allow the discharge of fugitive dust in excess of 100 yards from the point of origin or beyond the lot line of the property on which the emissions originate, whichever is less. *[AQR 41.1.1.1(a)]*
- c. The permittee shall use baghouses to control particulate emissions at all times the processing equipment is operating (EUs: A04, A09, A58, A62, A79, A104a, A130 and A151). *[NSR ATC Modification 5, Revision 0, Condition IV-B-3 (12/31/2010)]*
- d. The permittee shall maintain each of the baghouses in good operating condition to achieve a particulate control efficiency of 99.0 percent (EUs: A04, A09, A58, A62, A79, A104a, A130 and A151). *[NSR ATC Modification 5, Revision 0, Condition IV-B-4 (12/31/2010)]*
- e. The permittee shall maintain an effective seal around each of the baghouses and the pressure drop across each baghouse shall be maintained within the limits specified in Table III-B-12. The permittee shall operate baghouses for each individual emission units as indicated in Table III-B-12: *[NSR ATC Modification 5, Revision 0, Condition IV-B-6 (12/31/2010) and Part 70 OP (06/19/2020)]*

Table III-B-12: Summary of Add-On Control Devices for Aggregate Processing

EU	Device Type	Pressure Drop	Manufacturer	Model No.	Serial No.	Pollutant
A04 and A09	Baghouse	2.0 - 6.0 in/H ₂ O	Donaldson Torit	CPV-12	2797228	PM ₁₀
A79 and A104a	Baghouse	2.0 - 8.0 in/H ₂ O	PneumaFil	85168	643	PM ₁₀
A130 and A58	Baghouse	2.0 - 8.0 in/H ₂ O	Donaldson Torit	CPV-12	2797229	PM ₁₀
A151 and A62	Baghouse	2.0 - 8.0 in/H ₂ O	SiloAir – DCC	VS20KS3	99-1141/01	PM ₁₀

- f. The permittee shall allow no blasting when the National Weather Service forecasts wind gusts above 25 miles per hour (mph), or when DAQ issues a construction advisory or dust advisory. *[AQR 12.5.2.6(a)]*
- g. The permittee shall conduct blasting in a manner designed to facilitate a continuous process, with the blast fired as soon as possible following the completion of loading. If blasting a loaded round may be delayed for more than 72 hours, the permittee shall notify the appropriate Mine Safety and Health Administration district office. *[AQR 12.5.2.6(a)]*
- h. The permittee shall have a water truck available for use during all drilling and blasting operations. *[AQR 12.5.2.6(a)]*
- i. The permittee shall water the disturbed soils to form a crust immediately following blast and safety clearance. *[AQR 12.5.2.6(a)]*

MSWL – Soil/Material Transfer

- j. The permittee shall maintain a minimum of 1.5 percent moisture in the contaminated soil prior to unloading from the truck at the Soil Treatment facility (EUs: W01 and W02). *[NSR ATC/OP Modification 4, Revision 1, Condition IV-B-29 (11/04/2008)]*
- k. The permittee shall maintain a minimum of two (2) percent moisture during soil transfer operations (excluding truck unloading) at the Soil Treatment facility (EUs: W01 and W02). *[NSR ATC/OP Modification 4, Revision 1, Condition IV-B-29 (11/04/2008)]*
- l. The permittee shall maintain at least 2.5 percent moisture content in materials less than 0.25 inch in diameter for the cover material transfer operations (EU: W05). *[NSR ATC/OP Modification 4, Revision 1, Condition IV-B-28 (11/04/2008)]*

MSWL – Haul Roads

- m. The permittee shall treat unpaved roads located on the stationary source to control visible emissions to within allowable opacity limits. Treatment shall consist of watering, chemical or organic dust suppression, paving, gravelling, or equivalent control measures (EU: H02). [AQR 12.5.2.6(a)]

MSWL – GDO

- n. The permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Preventative measures to be taken include, but are not limited to, the following: [40 CFR Parts 63.11116 and 63.11117]
- i. Minimize gasoline spills;
 - ii. Clean up spills as expeditiously as practicable;
 - iii. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
 - iv. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators; and
 - v. Only load gasoline into storage tanks a using submerged filling where the greatest distance from the bottom of the storage tank to the point of opening of the fill tube is:
 - a. No more than 12 inches for submerged fill pipes installed on or before November 9, 2006; or
 - b. No more than 6 inches for submerged fill pipes installed after November 9, 2006.
- o. The permittee shall install, maintain, and operate a Phase I vapor recovery system on all gasoline storage tanks that meets the following requirements: [AQR 12.5.2.6]
- i. The Phase I vapor recovery system shall be rated with at least 90.0 percent control efficiency when in operation. This system shall be certified by an industry-recognized certification body, i.e., California Resources Air Board (CARB) or equivalent.
 - ii. The Phase I vapor recovery system shall be a dual-point vapor balance system, as defined by 40 CFR Part 63.11132, in which the storage tank is equipped with an entry port for a gasoline fill pipe and a separate exit port for a vapor connection.
 - iii. All Phase I vapor recovery equipment shall be installed and operated in accordance with manufacturer specifications and certification requirements.
 - iv. All Phase I vapor recovery equipment, including the vapor line from the gasoline storage tanks to the gasoline cargo tank, shall be maintained in good working order and vapor-tight, as defined in 40 CFR Part 63.11132.
 - v. All vapor connections and lines on storage tanks shall be equipped with closures that seal upon disconnect.
- p. The vapor balance system shall be designed so that the pressure in the cargo tank does not exceed 18 inches of water pressure or 5.9 inches of water vacuum during product transfer.
- q. Liquid fill and vapor return adapters for all systems shall be equipped and secured with vapor-tight caps after each delivery.
- r. A pressure/vacuum (PV) vent valve on each gasoline storage tank system shall be installed, maintained, and operated in accordance with manufacturer's specifications.

- i. The pressure specifications for PV vent valves shall be a positive pressure setting of 2.5 to 6.0 inches of water and a negative pressure setting of 6.0 to 10.0 inches of water.
- ii. The total leak rate of all PV vent valves at the affected facility, including connections, shall not exceed 0.17 ft³ per hour at a pressure of 2.0 inches of water and 0.63 ft³ per hour at a vacuum of 4 inches of water.
- s. The vapor balance system shall be capable of meeting the static pressure performance requirement in 40 CFR Part 63, Subpart CCCCCC. [AQR 12.5.2.6]
- t. The permittee shall comply with good management practices during the unloading of gasoline cargo tanks, as follows: [AQR 12.5.2.6]
 - i. All hoses in the vapor balance system shall be properly connected.
 - ii. The adapters or couplers that attach to the vapor line on the storage tank shall have closures that seal upon disconnect.
 - iii. All vapor return hoses, couplers, and adapters used in the gasoline delivery shall be vapor-tight.
 - iv. All tank truck vapor return equipment shall be compatible in size and form a vapor-tight connection with the vapor balance equipment on the gasoline storage tank.
 - v. All hatches on the tank truck shall be closed and securely fastened.
 - vi. The filling of storage tanks shall be limited to unloading from vapor-tight gasoline cargo tanks carrying documentation onboard that the cargo tank has met the specifications of EPA Test Method 27.

MSWL – LFG Collection System

- u. Except during periods of start-up, shut-down or malfunction, the permittee shall apply controls specified in this section for collected LFG. Periods of start-up, shut-down and malfunction shall not exceed five (5) days for the collection system and shall not exceed one (1) hour for treatment and control devices. [40 CFR 60.755(e)]
- v. Within 90 days of issuance of this permit, the permittee shall submit a Landfill Gas Collection and Control System Design Plan (Plan) to be approved by the Control Officer. If the most recent version of the Plan (July 2014) on file with DAQ has not changed since the prior submittal, the permittee is not required to resubmit the Plan. Instead, the permittee shall submit a truth and accuracy certification statement within 60 days of issuance of the permit stating that the Plan has not been revised. Any revisions made to the Plan must be submitted to the Control Officer for review and approval 60 days prior to making any changes. [AQR 12.5.2.6]
- w. The permittee shall include in the Plan any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions of 40 CFR 60.753 through 60.758. [40 CFR 60.752(b)(2)(i)(B)]
- x. The permittee shall operate and monitor the LFG collection system in accordance with 40 CFR 60.756 and 60.759 or the most recent version of the Plan. [40 CFR 60.752(b)(2)(i)(C) and AQR 12.5.2.6]
- y. The permittee shall operate the LFG collection system such that gas is collected from each area, cell, or group of cells in the MSWL in which solid waste has been in place for: [40 CFR 60.753(a)(1)]
 - i. 5 years or more if active; or

- ii. 2 years or more if closed or at final grade.
- z. The permittee shall operate the LFG collection system with negative pressure at the wellheads except under the following conditions: *[40 CFR 60.753(b)]*
 - i. A fire or increased temperature;
 - ii. Use of a geomembrane or synthetic cover. The permittee shall develop acceptable limits in the design plan; or
 - iii. A decommissioned well. A well may experience a static positive pressure after shutdown to accommodate for declining flows. All design changes shall be approved by the control officer.
- aa. The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 71°C (160°F) and with a nitrogen level less than 20 percent or an oxygen level less than 5 percent. *[40 CFR 60.753(c)]*
- bb. The permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. *[40 CFR 60.753(d)]*
- cc. In the event the collection or control system is inoperable, the permittee shall shut down the gas mover system and close all valves in the collection and control system that contributes to the venting of gas to the atmosphere within 1 hour. *[40 CFR 60.753(e)]*
- dd. If the operational requirements in this section for the LFG collection system are not met, the permittee shall initiate the following corrective actions: *[40 CFR 60.753(g)]*
 - i. Action shall be initiated to correct the exceedance within 5 calendar days of the initial exceedance or insufficient air flow measurement; and
 - ii. If correction of the exceedance, or the negative pressure cannot be achieved, without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance or the alternative corrective measures identified in the previously approved Plan.
- ee. The permittee shall not cap or remove the collection and control system until all of the following conditions are met: *[40 CFR 60.752(b)(2)(v)]*
 - i. The landfill shall be a closed landfill as defined in 40 CFR 60.751. A closure report shall be submitted to the Control Officer as provided in 40 CFR 60.757(d);
 - ii. The collection and control system shall have been in operation a minimum of 15 years; and
 - iii. Following the procedures specified in 40 CFR 60.754(b), the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be not less than 90 days apart, and no more than 180 days apart.
- ff. The permittee shall operate the LFG collection system such that all collected gases are vented to the control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii). *[40 CFR 60.753(e)]*

- gg. The permittee shall not be required to vent all collected gases to the control systems of this permit if the collected gas from the MSWL is routed to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of 40 CFR 60.752(b)(2)(iii)(A) or (B). *[40 CFR 60.752(b)(2)(iii)(C)]*
- hh. If the actual or calculated NMOC emission rate is greater than 50 megagrams per year, the permittee shall install a collection and control system per 40 CFR Subpart WWW (EU: W100). *[Part 70 OP (07/12/2018)]*

MSWL – Combustion Flares

- ii. Unless routed to a treatment system for subsequent sale or use, the permittee shall route all collected LFG from the MSWL to a control system that meets the control requirements of this permit for NMOC at all times the control system is operating. *[NSR ATC/OP Modification 4, Revision 1, Condition IV-B-33 (11/04/2008)]*
- jj. The permittee shall operate the enclosed combustion flare (EU: W11) to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million (ppm) by volume, dry basis as hexane at 3 percent oxygen. *[40 CFR 60.752(b)(2)(iii)(B)]*
- kk. The permittee shall operate the enclosed combustion flare (EU: W11) with the flame present at all times when the collected gas is routed to the system. *[40 CFR 60.753(f) and NSR ATC Condition IV-B-2 (01/10/2012)]*
- ll. The permittee shall operate the enclosed combustion flare (EU: W11) at a minimum temperature of 1,600° F or at a temperature that corresponds with at least 98 percent control efficiency of LFG obtained from the most recent performance test. *[40 CFR 60.752(b)(2)(iii)(B)(2) and NSR ATC Condition IV-B-3 (01/10/2012)]*
- mm. The permittee shall design and operate the open combustion flare (EU: G27) in accordance with 40 CFR 60.18 except as noted in 40 CFR 60.754(e). *[40 CFR 60.752(b)(2)(iii)(A)]*
- nn. The permittee shall direct collected gas that is routed to the open combustion flare (EU: G27) through the desulfurization system control device, which includes the activated carbon system as needed, to treat H₂S while the control device is operating. The permittee may bypass the desulfurization system control device and activated carbon system and route collected gas directly to the open combustion flare only when the desulfurization control device is not operable due to maintenance or malfunctions. *[NSR ATC Condition IV-B-3 (09/12/2013) and Part 70 OP (06/19/2020)]*
- oo. The permittee shall operate the open combustion flare (EU: G27) with the flame present at all times when the collected gas is routed to the flare. *[40 CFR 60.753(f)]*
- pp. The permittee shall adhere to either the heat content specifications in 40 CFR 60.18(c)(3)(ii) and the maximum tip velocity specifications in 40 CFR 60.18(c)(4), or the requirements in 40 CFR 60.18(c)(3)(i) as follows: *[40 CFR 60.18(c)(3)]*
- i. Flares shall be used only when the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or when the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f)(3), and

- ii. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity, V_{max} , as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.
- qq. The permittee shall design and operate an air-assisted flare with an exit velocity less than the velocity (V_{max}) as determined by the method specified in 40 CFR 60.18(f)(6). *[40 CFR 60.18(c)(5)]*
- rr. The permittee shall develop a written startup, shutdown, and malfunction (SSM) plan according to the provisions in 40 CFR 63.6(e)(3), and submit the plan to the Control Officer for approval by the compliance date of the relevant standards. The permittee shall maintain a copy of the approved SSM plan dated 12/19/2013 on-site. Any changes that need to be made to the SSM plan must be submitted to the Control Officer for review and approval prior to making the change. *[40 CFR 63.1960]*
- ss. At all times, including periods of start-up, shut-down and malfunction, the permittee shall under all conditions maintain and operate the source in a manner consistent with good air pollution control practice to minimize emissions as required by 40 CFR 63.6. Determination that acceptable operating and maintenance procedures are being used shall be based on information available to the Control Officer, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspections of the source. *[40 CFR 63.1960]*

MSWL – Desulfurization System Control Device

- tt. The permittee shall operate the desulfurization system control device, which includes the activated carbon system as needed, to control SO₂ emissions from the gas routed to the enclosed combustion flare (EU: W11) when the flare is in operation. *[NSR ATC Condition IV-B-4 (01/10/2012) and Part 70 OP (06/19/2020)]*
- uu. The permittee shall operate the desulfurization system control device, which includes the activated carbon system as needed, to control SO₂ emissions from the gas routed to the open combustion flare (EU: G27) when the control device is operable and when the open combustion flare is in operation. *[NSR ATC Condition IV-B-3 (09/12/2013) and Part 70 OP (06/19/2020)]*
- vv. The permittee shall operate and maintain the desulfurization system control device and activated carbon system in accordance with the manufacturer's specifications. *[NSR ATC Condition IV-B-5 (01/10/2012) and Part 70 OP (06/19/2020)]*
- ww. The permittee shall operate the desulfurization system control device, which includes the activated carbon system as needed, to achieve an LFG with a maximum daily TRS content of less than 304 ppmv based on a consecutive 365 day average. *[NSR ATC (03/01/2018)]*
- xx. The permittee shall maintain the temperature of the media in the desulfurization system control device to no greater than 115°F. *[AQR 12.4.3.1(e)(10)]*
- yy. The permittee shall maintain the pH of the media in the desulfurization system control device between 7.9 and 9.0. *[AQR 12.4.3.1(e)(10)]*

MSWL – Diesel Engines

- zz. The permittee shall operate the tipper IC engines W222, W223, W224, W225, W226, W227 and W228 with internal combustion engines used for emission units W214, W215, and W217 with a turbocharger and aftercooler. *[NSR ATC/OP Modification 4, Revision 1, Condition IV-B-48 (11/04/2008) and Part 70 OP (07/08/2019); and Application for Minor Revision of Part 70 OP (04/15/2021)]*
- aaa. The permittee shall operate the W219 genset with cooled Exhaust Gas Recirculation (EGR) system, Air-to-Air aftercooled method, and a Diesel Oxidation Catalyst (DOC). *[Part 70 OP (07/12/2018)]*

Pig Farm – Boilers

- bbb. The permittee shall only burn diesel fuel in the boiler and must, at all times, operate and maintain the boiler, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions (EU: P01). *[40 CFR §63.7500(a)(3)]*
- ccc. The permittee shall only burn propane in the boilers and must, at all times, operate and maintain the boiler, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions (EUs: P02 and P03). *[40 CFR §63.7500(a)(3)]*

Landfill Gas to Energy

- ddd. The permittee shall operate and maintain all emission units (EUs: E01, E02 and E03) in accordance with manufacturer's recommendations for good combustion practices. *[40 CFR 70.5(c)(3)(iv)]*
- eee. The permittee shall operate each turbine (EUs: E01 and E02) in a manner which minimizes HAP emissions. *[40 CFR 63.6125(c)]*
- fff. The permittee shall only combust LFG in each turbine (EUs: E01 and E02) and the flare (EU: E03) with a daily TRS content less than 304 ppmv based on a consecutive 365 day average. *[16539 NSR ATC (03/01/2018)]*
- ggg. The permittee shall operate each turbine (EUs: E01 and E02) with 'SoLoNO_x' combustion technology. *[16539 NSR ATC (05/19/2014)]*
- hhh. The permittee shall operate each turbine (EUs: E01 and E02) with a SCR control device at all times the associated turbine units are operating, excluding periods of startup and shutdown. *[16539 NSR ATC (05/19/2014)]*
- iii. The permittee shall operate each SCR system to achieve a minimum of 30 percent control efficiency for NO_x removal (EUs: E01 and E02). *[16539 NSR ATC (05/19/2014)]*
- jjj. The permittee shall operate each SCR system at a temperature greater than 504°F and less than 870°F. *[AQR 12.5.2.6(a)]*
- kkk. The permittee shall operate each SCR system such that NO_x emissions shall not exceed the limitations listed in Tables III-B-7, III-B-8, and III-B-9. *[AQR 12.5.2.6(a)]*
- lll. The permittee shall control PM₁₀ emissions by maintaining and periodically replacing inlet air filters preceding each turbine (EUs: E01 and E02) per the manufacturer's recommendations for good operating practice. *[16539 NSR ATC (05/19/2014)]*

- mmm. The permittee shall construct the stack height(s) for the combustion turbines (EUs: E01 and E02) to meet the requirements of AQR 12.2.7.3(b)(4) with a height of 35 feet (10.67 meters) and a diameter of 6.25 feet (1.91 meters). [AQR 12.2.7.3]
- nnn. The permittee shall operate the flare (EU: E03) at a temperature of 1,600°F or greater except during startup or shutdown. [16539 NSR ATC (05/19/2014)]

Fugitive Dust

- ooo. The permittee shall not allow mud or dirt to accumulate on a paved surface where trackout extends greater than 50 feet in cumulative length or accumulates to a depth greater than 0.25 inches. [AQR 94.14(d)]
- ppp. The permittee shall immediately clean any trackout, including trackout less than 50 feet in length or 0.25 inches in depth, and maintain the surface to eliminate emissions of fugitive dust by removing all accumulations of mud or dirt on curbs, gutters, sidewalks, or paved surfaces that cause visible emissions in excess of the emission limits and standards in this permit. [AQR 94.14(e)]
- qqq. Except as otherwise required in this section, all trackout shall be cleaned up by the end of the workday or evening shift, regardless of length or depth. [AQR 94.14(f)]
- rrr. The permittee shall not use blower devices or dry rotary brushes to remove deposited mud, dirt, or rock from a paved surface. Rotary brushes may be used when sufficient water is applied to limit visible emissions consistent with the emissions limits in this permit. [AQR 94.14(a)(1)-(3), (b) and (c)]
- sss. For stockpiles over eight feet high, the permittee shall: [AQR 94.14(g)]
- g. Locate the stockpile more than 100 yards from occupied buildings.
 - h. Blade a road to the top of the stockpile to allow water truck access, or use another means to provide equally effective dust control at the top of the stockpile.
- ttt. The permittee shall implement one or more of the following to maintain fugitive dust control on all disturbed soils to the extent necessary to pass the Drop Ball Test described in AQR 94.15.5: [AQR 94.12(b)]
- a. Maintain in a sufficiently damp condition to prevent loose particles of soil from becoming dislodged;
 - b. Crust over by application of water;
 - c. Completely cover with clean gravel;
 - d. Treat with a dust suppressant; or
 - e. Treat using another method approved in advance by the Control Officer.
- uuu. The permittee shall not allow unpaved parking lots or storage areas of more than 5,000 square feet to exceed the following, as determined by Section 92.6.3, except in areas on which clean gravel has been applied. The permittee shall demonstrate compliance as required by the Control Officer. [AQR 92.4(a)]
- a. 0.33 oz/ft² silt loading; or
 - b. 6% silt content.

- vvv. The permittee shall control fugitive dust emissions from unpaved parking lots and storage areas of more than 5,000 square feet by: *[AQR 92.3.4]*
- a. Paving, as defined in AQR 0;
 - b. Applying alternate asphalt paving, as defined in AQR 92.2;
 - c. Uniformly applying and maintaining clean gravel to a depth of two inches; or
 - d. Applying and maintaining an alternative control measure with prior written approval from the Control Officer.
- www. Control measures outlined in this permit, and other measures needed for maintaining dust control, shall be implemented 24 hours a day, 7 days a week. *[AQR 94.13(b)]*

Other

- xxx. The permittee shall not cause or permit the handling, transporting, or storage of any material in a manner which allows or may allow controllable particulate matter to become airborne. *[AQR 41.1.2]*
- yyy. The permittee shall operate in such a manner that odors will not cause a nuisance. *[AQR 43]*
(Local enforceability only)
- zzz. The permittee shall comply with the control requirements contained in this section. If there is inconsistency between standards or requirements, the most stringent standard or requirement shall apply. *[AQR 12.5.2.6(a)]*

C. MONITORING

Visible Emissions

1. The permittee shall perform at least one visual emissions observation on each emission unit in the aggregate plant each day. Daily visual observations shall include the aggregate plants, which include control device stacks, (EUs: A01, A02, A04, A07, A08, A09, A12, A16, A17, A22, A23, A25, A27, A28, A30, A31, A33, A34, A35, A37, A38, A40, A42, A44, A46, A47, A49, A51, A52, A58, A60, A62, A65, A69, A72, A74, A77, A152, A79, A82, A83, A85, A87, A89, A93, A95, A98, A102, A104a, A106, A127, A128, A130, A133, A136, A138, A141, A143, A145, A147, A149, and A151) while operating, to demonstrate compliance with the opacity limits. *[AQR 26.1]*
2. The permittee shall perform at least one visual emissions observation on each emission unit in the MSWL each day. Daily visual observations shall include the haul roads, waste processing, cover material, LFG flares, waste placement, stockpiles, generator engines, and tipper engines (EUs: G27, H01, H02, W01, W02, W05, W08, W09, W11, W214, W215, W217, W219, and W222 through W228) while operating, to demonstrate compliance with the opacity limits. *[AQR 26.1]*
3. The permittee shall conduct a weekly visual emissions check on the engine in the Pig Farm (EU: P04) for visible emissions from the facility while it is in operation. *[AQR 26.1]*
4. The permittee shall conduct a weekly visual emissions check on each emission unit in the Landfill Gas to Energy (EUs: E01, E02, and E03) for visible emissions from the facility while it is in operation. *[AQR 26.1]*
5. If no plume appears to exceed the opacity standard during the visible emissions check, the date, location, and results shall be recorded, along with the viewer's name. *[AQR 12.5.2.6(d)]*

6. If a plume appears to exceed the opacity standard, the permittee shall do one of the following:
 - a. Immediately correct the perceived exceedance, then record the first and last name of the person who performed the emissions check, the date the check was performed, the unit(s) observed, and the results of the observation; or
 - b. Call a certified Visible Emissions Evaluation (VEE) reader to perform a U.S. Environmental Protection Agency (EPA) Method 9 evaluation.
 - i. For sources required to have a certified reader on-site, the reader shall start Method 9 observations within 15 minutes of the initial observation. For all other sources, the reader shall start Method 9 observations within 30 minutes of the initial observation.
 - ii. If no opacity exceedance is observed, the certified VEE reader shall record the first and last name of the person who performed the VEE, the date the VEE was performed, the unit(s) evaluated, and the results. A Method 9 VEE form shall be completed for each emission unit that was initially perceived to have exceeded the opacity limit, and the record shall also indicate:
 1. The cause of the perceived exceedance;
 2. The color of the emissions; and
 3. Whether the emissions were light or heavy.
 - iii. If an opacity exceedance is observed, the certified VEE reader shall take immediate action to correct the exceedance. The reader shall then record the first and last name of the person performing the VEE, the date the VEE was performed, the unit(s) evaluated, and the results. A Method 9 VEE form shall be completed for each reading identified, and the record shall also indicate:
 1. The cause of the exceedance;
 2. The color of the emissions;
 3. Whether the emissions were light or heavy;
 4. The duration of the emissions; and
 5. The corrective actions taken to resolve the exceedance.
7. Any scenario of visible emissions noncompliance can and may lead to enforcement action.
8. Visible emissions checks do not require a certified observer unless the visible emissions appear to exceed the allowable opacity limit, and to last more than 30 seconds, but an EPA Method 9 observation establishes that the emissions do not in fact exceed the standard. *[AQR 12.5.2.6(d)]*

Aggregate Plant

9. This source is required to comply with the monitoring requirements in 40 CFR Part 60, Subpart OOO. *[NSR ATC Modification 5, Revision 0, Condition IV-C-1-Aggregate Plant (12/31/2010)]*
10. The permittee shall inspect the water spray system daily and investigate and correct any problems before resuming operations. *[NSR ATC Modification 5, Revision 0, Condition IV-C-3-Aggregate Plant (12/31/2010)]*

11. The permittee shall conduct daily monitoring of the pressure drop across each baghouse cell with the installation and operation of a pressure differential (Magnahelic) gauge per manufacturer's specifications. *[NSR ATC Modification 5, Revision 0, Condition IV-C-4-Aggregate Plant (12/31/2010)]*
12. The permittee shall visually inspect the baghouse interior at least monthly for air leaks. Defective baghouse compartments shall be sealed off and repairs completed within 5 working days of the discovery of the malfunction. Should the malfunction cause the baghouse to be ineffective in controlling particulate emissions, the processing of material shall cease until such repairs to the baghouse are completed. *[NSR ATC Modification 5, Revision 0, Condition IV-C-5-Aggregate Plant (12/31/2010)]*
13. The permittee shall have a standard operating procedures (SOP) manual for baghouses. The procedures specified in the manual for maintenance shall, at a minimum, include a preventative maintenance schedule that is consistent with the baghouse manufacturer's instructions for routine and long-term maintenance. *[NSR ATC Modification 5, Revision 0, Condition IV-C-6-Aggregate Plant (12/31/2010)]*

Haul Roads

14. The permittee shall monitor daily the number of VMT on-site by haul trucks entering and leaving, and calculate, on a monthly basis, the VMT as consecutive 12-month totals (EUs: H01 and H02). *[AQR 12.5.2.6(d)]*

Drilling/Blasting

15. The permittee shall monitor the estimated surface area per each blast and record it for inclusion in the monthly total blasting area (EU: A127). *[AQR 12.5.2.6(d)]*
16. The permittee shall monitor the daily amount of ANFO used during each blast, and calculate on a monthly basis, the total as a consecutive 12-month total (EU: A127). *[AQR 12.5.2.6(d)]*
17. The permittee shall monitor the number of holes drilled, on a monthly basis (EU: A127). *[AQR 12.5.2.6(d)]*

MSWL - General

18. The permittee shall demonstrate compliance with the minimum moisture content by conducting and recording bi-weekly sampling and analysis of materials less than 0.25 inch in diameter in accordance with ASTM Standard C 566-89: Standard Test Method for Total Moisture Content of Aggregate by Drying (EU: W01 and W05). Samples for moisture testing shall be retrieved from the following locations: *[NSR ATC/OP Modification 4, Revision 1, Condition IV-E-4 (11/04/2008)]*
 - a. Within 10 feet from the point where materials are unloaded/transferred (EU: W01);
 - b. Within 10 feet from the point where screened cover material is placed on the conveyor (EU: W05); and
 - c. Within 10 feet from each stacker drop point (EU: W05).
19. The permittee shall demonstrate compliance with the minimum moisture content by conducting and recording bi-weekly sampling and analysis of materials less than 0.25 inch in diameter in accordance with ASTM Standard C 566-89: Standard Test Method for Total Moisture Content of Aggregate by Drying (EU: W02). *[Part 70 OP (07/12/2018)]*

20. The permittee shall demonstrate compliance with the annual maximum VOC emission specified in this permit for the Soil Treatment facility by recording the amount and VOC content of contaminated material (liquids and solids) received on a daily basis. The permittee shall calculate the total VOC emission using “Chemdat8” emission factor, for every consecutive 12-month period (EU: W02). *[NSR ATC/OP Modification 4, Revision 1, Condition IV-E-10 (11/04/2008)]*
21. The permittee shall demonstrate compliance with the NMOC emission rate for the Industrial Waste facility by calculating the NMOC emission rate on an annual basis to ensure that the rate does not trigger the requirements in 40 CFR Part 60, Subpart WWW, using the procedures specified in 40 CFR 60.754 (EUs: W05 and W100). *[NSR ATC/OP Modification 4, Revision 1, Condition IV-E-12 (11/04/2008)]*
22. The permittee shall monitor the throughput of material (total liquids and solids) in the Soil Treatment Operation, and calculate, on a monthly basis, the throughput as a consecutive 12-month total (EUs: W01 and W02). *[AQR 12.5.2.6(d)]*
23. The permittee shall monitor the throughput of material in the Cover Material Handling for Waste Placement, and calculate, on a monthly basis, the throughput as a consecutive 12-month total (EU: W05). *[AQR 12.5.2.6(d)]*
24. The permittee shall monitor and record the daily combined throughput of gasoline products (EU: W06) in gallons, and calculate, on a monthly basis, the throughput as a consecutive 12-month total. *[AQR 12.5.2.6(d)]*
25. The permittee shall conduct daily inspections of the GDO equipment to ensure that the equipment is maintained and operated in a vapor tight and leak free manner, pursuant to the manufacturer’s specifications (EU: W06). *[NSR ATC Modification 8, Revision 1, Condition IV-C-1 (05/13/2010)]*
26. The permittee shall monitor the throughput of material for Waste Placement, and calculate, on a monthly basis, the throughput as a consecutive 12-month total (EU: W08). *[AQR 12.5.2.6(d)]*
27. The permittee shall monitor daily the total stockpile area (EU: W09). *[AQR 12.5.2.6(d)]*
28. The permittee shall monitor the hours of operation of the tipper engines (EUs: W222 through W228). *[AQR 12.5.2.6(d)]*

Surface Methane Monitoring (EU: W100)

29. The permittee shall follow the surface monitoring requirements of 40 CFR 60.755(c) and 60.755(d) or develop and follow a surface monitoring design plan that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. This surface monitoring design plan must be submitted to the Control Officer for review and approval within 180 days of issuance of this permit and available during inspection. *[40 CFR 60.753(d) and AQR 12.5.3.6]*
30. The permittee shall monitor, on a quarterly basis, surface concentrations of methane using an organic vapor analyzer, flame ionization detector or other portable monitor meeting the following specifications: *[40 CFR 60.755(c)(1)]*
 - a. The portable analyzer shall meet the instrument specification provided in 40 CFR Part 60, Appendix A: Method 21, Section 3, except the “methane” shall replace references to VOC;

- b. The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air;
 - c. The instrument evaluation procedures of 40 CFR Part 60, Appendix A: Method 21, Section 4.4 shall be used to meet the performance evaluation requirements in Section 3.1.3; and
 - d. The calibration procedures provided in 40 CFR Part 60, Appendix A: Method 21, Section 4.2 shall be followed immediately before commencing a surface monitoring survey.
31. The permittee shall monitor surface concentrations of methane on a quarterly basis around the perimeter of the collection area of the MSWL and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. *[40 CFR 60.753(d)]*
 32. The permittee shall determine the methane background concentration by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. *[40 CFR 60.755(c)(2)]*
 33. The permittee shall perform quarterly surface emission monitoring in accordance with 40 CFR Part 60, Appendix A: Method 21, Section 4.3.1, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. *[40 CFR 60.755(c)(3)]*
 34. The permittee shall record any reading of 500 ppm or more of methane above background at any location as a monitored exceedance and shall take the following actions. As long as the following actions are taken, the exceedance is not a violation of the operation requirements of 40 CFR 60.753(d). *[40 CFR 60.755(c)(4)]*
 - a. The permittee shall mark and record the location of each monitored exceedance;
 - b. The permittee shall perform cover maintenance or make adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance and shall re-monitor the location within 10 calendar days of detection of the exceedance;
 - c. If the re-monitoring of the location shows a second exceedance, the permittee shall take additional corrective action and shall monitor the location again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the permittee shall take the action specified in Condition III-C-35-(e) and no further monitoring of that location is required until the action specified in Condition III-C-35-(e) has been taken;
 - d. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm above background at the 10-day re-monitoring specified in Condition III-C-35-(b) and (c) shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 ppm above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in Condition III-C-35-(c) and (e) shall be taken; and
 - e. For any location where monitored methane concentration equals or exceeds 500 ppm above background 3 times within a quarterly period, the permittee shall install a new well or other collection device within 120 calendar days of the initial exceedance. An

alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

35. The permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. *[40 CFR 60.755(c)(5)]*

LFG Collection Monitoring

36. The permittee shall install a sampling port and a thermometer, other temperature measuring device or an access port for temperature measurements at each wellhead of the active gas collection system and: *[40 CFR 60.756(a)(1) through (3)]*
- Measure the gauge pressure in the gas collection header on a monthly basis as provided in 40 CFR 60.755(a)(3);
 - Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis using Method 3C as provided in 40 CFR 60.755(a)(5); and
 - Monitor temperature of the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5).
37. The permittee shall measure the gauge pressure in the gas collection header at each individual well monthly. If a positive pressure exists, the permittee shall initiate action to correct the exceedance within 5 calendar days, except for the three conditions allowed under 40 CFR 60.753(b). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedance of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Control Officer for approval. *[40 CFR 60.755(a)(3) through (5)]*

Desulfurization Control System Monitoring

38. The permittee shall monitor the time and date of operation of the desulfurization system control device. *[AQR 12.4.3.1(e)(10)]*
39. The permittee shall monitor the time and date of operation of the activated carbon system. *[AQR 12.4.3.1(e)(10)]*
40. The permittee shall monitor the LFG throughput, in standard cubic feet, to the desulfurization system control device, and calculate monthly the annual volume as a consecutive 12-month total. *[AQR 12.4.3.1(e)(10)]*
41. The permittee shall continuously monitor the temperature of the media in the desulfurization system control device electronically to comply with the temperature limit of this permit. An alarm will sound if temperature exceeds 112°F. *[AQR 12.4.3.1(e)(10)]*
42. The permittee shall continuously monitor the pH of the media in the desulfurization system control device electronically to comply with the pH range limit of this permit. An alarm will sound if the pH is below 7.9 or above 9.0. *[AQR 12.4.3.1(e)(10)]*
43. The permittee shall monitor the Desulfurization Control System by performing the following: *[AQR 12.4.3.1(e)(10)]*
- Weekly calculations of the H₂S concentrations at the outlet of the desulfurization plant, which includes the activated carbon system and the activated carbon bypass, using a manufacturer-calibrated device (i.e. Draeger tube); and

- b. Monthly calculations of the H₂S concentration by conducting laboratory analysis for samples taken at the outlet of the desulfurization plant, which includes the activated carbon system and the activated carbon bypass.
- c. If the desulfurization system does not operate for more than 72 hours continuously in a calendar month, the H₂S control efficiency monitoring specified in (a) and (b) above is not required for that month.

Enclosed Combustion Flare Monitoring (EU: W11)

44. The permittee shall monitor the throughput of landfill gas through the enclosed combustion flare, and calculate, on a monthly basis, the throughput as a consecutive 12-month total (EU: W11). *[AQR 12.5.2.6(d)]*
45. The permittee shall calibrate, maintain and operate the following equipment on the enclosed combustion flare according to the manufacturer's specifications:
 - a. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater. *[40 CFR 60.756(b)]*
 - b. A device that records flow to or bypass of the control device. The permittee shall either:*[40 CFR 60.756(b)]*
 - i. Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or
 - ii. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.
46. The permittee, after the installation of a collection and control system, shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in 40 CFR 60.752(b)(2)(v), using the equation in 40 CFR 60.754(b). *[40 CFR 60.754(b)]*
 - a. The permittee shall use the flow rate of landfill gas by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions in 40 CFR Part 60, Appendix A: Method 2E, Section 4.
 - b. The permittee shall determine the average NMOC concentration by collecting and analyzing landfill gas samples, from the common header pipe before the gas moving or condensate removal equipment, using the procedures in 40 CFR Part 60, Appendix A: Method 25C or Method 18.
47. The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Control Officer.

Open Combustion Flare (EU: G27)

48. The permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment on the open combustion flare; *[40 CFR 60.756(c)]*
 - a. A heat sensing device, such as an ultraviolet beam sensor or thermocouple at the pilot light or the flame itself to indicate the continuous presence of a flame; and

- b. A device that records LFG flow to or bypass of the open combustion flare. The permittee shall either:
 - i. Install, calibrate, and maintain a gas flow rate measuring device that shall record the LFG flow to the control device at least every 15 minutes; or
 - ii. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.
49. The permittee shall monitor the throughput of landfill gas to the open combustion flare on a monthly basis (EU: G27). Landfill gas shall be monitored and recorded in cubic feet. *[AQR 12.5.2.6(a)]*
50. The permittee shall conduct, each calendar quarter, a heating value analysis (Btu content) on the landfill gas consistent with EPA approved methods (or equivalent) or a net heating value analysis of the combustion landfill gas as outlined in 40 CFR 60.18(f)(3). *[40 CFR 60.18(f)(4)]*
51. The permittee shall determine, each calendar quarter, the concentration of methane in the landfill gas by using 40 CFR Part 60, Appendix A: Method 3C. *[40 CFR 60.754(e)]*

Diesel Engines

52. The permittee shall install non-resettable hour meters on the reciprocating IC engine (EU: P04). *[AQR 12.5.2.6(a)]*
53. The permittee shall ensure compliance with the provisions of 40 CFR Part 60, Subpart III contained within this document by demonstrating all of the following: *[40 CFR 60.424211(b)]*
 - a. Operation of the diesel engines (EUs: W214, W215, W217, W219, W222 through W228, and P04) according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer; and
 - b. The keeping of records of engine manufacturer data indicating compliance with the emission standards.

Pig Farm Diesel Engine

54. The permittee shall operate the continuous-duty engine (EU: P04) with a non-resettable hour meter, monitor its duration of operation in hours, and calculate, on a monthly basis, the operating hours as a consecutive 12-month total. *[AQR 12.5.2.6(d)]*

Pig Farm Boilers

55. The permittee shall perform initial burner efficiency tests within 180 days after initial startup (EUs: P01, P02 and P03). *[AQR 12.5.2.6(a)]*
56. The permittee shall conduct burner efficiency tests in accordance with manufacturer specifications for good combustion practices. Alternative methods may be used upon approval from the Control Officer (EUs: P01, P02 and P03). *[AQR 12.5.2.6(a)]*
57. The permittee shall perform a burner efficiency test once each calendar year (EUs: P01 and P03). *[AQR 12.5.2.6(a)]*

58. The permittee shall not have to perform a burner efficiency test if the actual hours of operation are 0. To exercise this option, the permittee must install an hour meter and begin keeping written records before the start of the calendar year (EUs: P01 and P03). The permittee cannot use this option for two consecutive years. *[AQR 12.5.2.6(a)]*
59. The permittee must conduct a tune-up of the boilers every 5 years (EUs: P01, P02, and P03). The tune-up must be done within 61 months of initial startup. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. *[40 CFR §63.7540(a)(12) and 40 CFR §63.7515(d)]*

Landfill Gas to Energy

60. The permittee shall monitor the H₂S content of the fuel consistent with the LFG fuel sulfur monitoring plan developed by the source pursuant to the methods described in 40 CFR 60.4370(b) or (c) (See Attachment 3). *[40 CFR 60.4370]*
61. The permittee shall use a Process Gas Chromatograph to monitor the sulfur content of the LFG at least once per day a turbine operates. *[40 CFR 60.4370]*
62. If the Process Gas Chromatograph is out of service for more than 12 hours per operating day, the permittee shall:
 - a. notify Air Quality, in writing, within 24 hours of the start of the instrument's malfunction; and
 - b. determine the sulfur content of the LFG using a hand-held H₂S draeger tube or data substitution method, at least once per operating day until the Process Gas Chromatograph is back in service.
63. The permittee shall conduct a monthly fuel analysis and determine the ratio of TRS/H₂S in the fuel. *[16539 NSR ATC (03/01/2018)]*
64. The permittee shall determine fuel TRS content using the measured H₂S content and the calculated TRS/H₂S ratio to demonstrate compliance with the fuel sulfur limit identified in condition III-B-3-yy. *[16539 NSR ATC (03/01/2018)]*
65. The permittee shall calculate SO₂ emissions to demonstrate compliance with condition III-B-1-w. As an alternative to this SO₂ emissions limit, the permittee may determine fuel TRS content using the measured H₂S content and the calculated TRS/H₂S ratio to demonstrate the fuel sulfur limit is below 463.4 ppm TRS on a one-hour average. *[16539 NSR ATC (03/01/2018)]*
66. The permittee shall install a nonresettable fuel flow meter for each turbine (EUs: E01 and E02) and shall monitor and record the LFG fuel flow rate of each emission unit to demonstrate compliance with the limit on fuel consumption. *[AQR 12.5.2.6(d) and 40 CFR Part 63.6125(c)]*
67. The permittee shall determine the hourly heat input rate (MMBtu/hr) for each turbine from the LFG flow (ft³/hr or lbs/hr) and fuel heating value (Btu/lb or Btu/ft³) to demonstrate compliance with the SO₂ limit identified in condition III-B-1-u. *[16539 NSR ATC (03/01/2018)]*
68. The permittee shall monitor the operating temperature of each SCR system every 15 minutes during operation. *[AQR 12.5.2.6(d)]*

Turbines (EUs: E01 and E02) [NSR ATC (05/19/2014)]

69. The permittee shall define excess emissions and monitoring downtime for SO₂ in accordance with 40 CFR 60.4385. (See Attachment 3).
70. The permittee shall maintain logs of the maintenance and replacement of the inlet air filters for each turbine (EUs: E01 and E02). *[AQR 12.5.2.6(d)]*

71. The permittee shall install a non-resettable hour meter for each turbine (EUs: E01 and E02) and shall monitor and record the hours of operation for each turbine. *[AQR 12.5.2.6(d)]*

Flare (EU: E03) [NSR ATC (05/19/2014)]

72. The permittee shall install a non-resettable hour meter on the flare to monitor and record the hours of operation to demonstrate compliance with the hourly limits on the flare operation. *[AQR 12.5.2.6(d)]*
73. The permittee shall install a fuel flow meter on the flare to monitor and record the fuel flow. *[AQR 12.5.2.6(d)]*
74. The permittee shall equip the flare with a temperature sensing/recording device to demonstrate compliance with the temperature limits of this permit. *[AQR 12.5.2.6(d)]*
75. The permittee shall monitor the presence of a flare pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame. *[AQR 12.5.2.6(d)]*

D. TESTING

Aggregate Plant

1. Compliance with the opacity standards of this permit shall be demonstrated, in part, through performance testing in accordance with 40 CFR Part 60, Reference Method 9 (Standards for Opacity). *[NSR ATC Modification 5, Revision 0, Condition IV-D-1-Aggregate Plant (12/31/2010)]*
2. The permittee shall conduct performance testing for opacity standards on all emission units in the aggregate plant except mining and blasting according to the following conditions (EUs: A02, A04, A07, A08, A09, A12, A16, A17, A22, A23, A25, A27, A28, A30, A31, A33, A34, A35, A37, A38, A40, A42, A44, A46, A47, A49, A51, A52, A58, A60, A62, A65, A69, A72, A74, A77, A152, A79, A82, A83, A85, A87, A89, A93, A95, A98, A102, A104a, A106, A128, A130, A133, A136, A138, A141, A143, A145, A147, A149 and A151): *[NSR ATC Modification 5, Revision 0, Condition IV-D-2-Aggregate Plant (12/31/2010)]*
 - a. The permittee is required to comply with the performance testing requirements of 40 CFR Part 60, Subpart OOO.
 - b. Initial performance tests on affected emission units (EU: A152) shall be conducted within 60 days after achieving the maximum production rate at which the source will be operated, but no later than 180 days after start-up.
 - c. Subsequent performance testing shall be conducted upon written notification from the Control Officer.
3. Compliance with the mass emission standards of this permit and concentration standards in 40 CFR Part 60, Subpart OOO shall be demonstrated through performance testing in accordance with 40 CFR Part 60, Reference Method 5 or 17. *[40 CFR 60.675(b)(1) and Hearing Officer Order (08/15/2016)]*
4. The permittee shall conduct performance testing on the baghouse stack exhaust points (EUs: A04, A09, A58/A130, A62/A151, A79, and A104a) according to the following conditions: *[NSR ATC Modification 5, Revision 0, Condition IV-D-4-Aggregate Plant (12/31/2010) and Hearing Officer Order (08/15/2016)]*

- a. The permittee is required to comply with the performance testing requirements of 40 CFR Part 60, Subpart OOO.
- b. The permittee shall conduct initial performance tests within 60 days of achieving the maximum production rate at which the source will be operated, but no later than 180 days after initial startup (EUs: A58/A130 and A62/A151).
- c. Subsequent performance testing shall be conducted once every five years, no later than 90 days after the anniversary date of the last successful performance test.
- d. Subsequent performance testing shall be conducted once every five years, no later than 90 days after the anniversary date of the last successful performance test in accordance with Table III-D-1. *[NSR ATC Modification 5, Revision 0, Condition IV-D-5-Aggregate Plant (12/31/2010) and Hearing Officer Order (08/15/2016)]*

TABLE III-D-1: Performance Testing Requirements

EU	Description	Control Device	PM Standard ¹	PM ₁₀ Mass Emission Rate ²	Testing Method ³
A04	Primary Crusher 1	BH	0.014 gr/dscf	0.069 lbs/hour	Method 5 or 17
A09	Primary Crusher 2	BH	0.014 gr/dscf	0.069 lbs/hour	Method 5 or 17
A58/ A130	HSI Crusher 1/ Primary Crusher 3	BH	0.014 gr/dscf	0.170 lbs/hour	Method 5 or 17
A62/ A151	VSI Crusher 1/ Cone Crusher 2	BH	0.014 gr/dscf	0.111 lbs/hour	Method 5 or 17
A79	Cone Crusher 1	BH	0.014 gr/dscf	0.179 lbs/hour	Method 5 or 17
A104a	VSI Crusher 2	BH	0.014 gr/dscf	0.179 lbs/hour	Method 5 or 17

¹ Stack emissions standards pursuant to 40 CFR Part 60, Subpart OOO stack emissions concentration requirements.

² Emissions limits for process equipment controlled by baghouses in Aggregate Plant are limited to an emission rate equal to 25% of the 40 CFR Part 60, Subpart OOO as delineated in the July 19, 2016 Settlement Agreement.

³ Mass emission standards and concentration standards testing methods as referenced in 40 CFR Part 60, Subpart OOO.

MSWL – Gasoline Dispensing

5. The permittee shall conduct vapor recovery system testing using the following procedures on the GDO equipment (EU: W06) pursuant to AQR Subsection 12.8.1 (amended 10/07/04). *[NSR ATC Modification 8, Revision 1, Condition IV-D-1 (05/13/2010)]*
6. The permittee shall conduct performance testing on the GDO equipment as follows (EU: W06): *[NSR ATC Modification 8, Revision 1, Condition IV-D-2 (05/13/2010)]*
 - a. Each vapor recovery system test shall be conducted in accordance with the applicable CARB Test Procedure that is required by the CARB EO;
 - b. The source shall give a 30-day written prior notice of the date of the test to the Control Officer;
 - c. Any prior approved scheduled vapor recovery system test cannot be canceled and/or rescheduled except with the prior approval of the Control Officer;
 - d. Within 60 days from the end of a vapor recovery system test, the source shall submit a report containing the results of such test to the Control Officer;
 - e. The report shall have, as the first page of text or within the body of the test report form, a signed Certification of Performance Test Result;

- f. If the source fails a performance test, the Control Officer shall be notified within 24 hours or by 12:00 p.m. (Noon) of Air Quality’s next business day, whichever is soonest. Repairs to correct the defects shall be made and a retest scheduled with the Control Officer. The retest shall be scheduled within 10 calendar days of the failed test. If the repairs and retest cannot be accomplished within 10 calendar days, the source must submit the reasons and a proposed date for retesting in writing to the Control Officer for approval; and
- g. The source shall conduct the performance tests listed in Table III-D-2:

Table III-D-2: Required Performance Test Criterion

Description	CARB Test Procedure	Frequency
Pressure decay/leak test	TP-201.3B (as revised for AST)	Initial and every three years thereafter
Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves	TP-201.1E (as revised)	Initial and every three years thereafter

- 7. The permittee shall conduct a test on the Vapor Recovery System for the GDO equipment (EU: W06) every three years as follows: *[NSR ATC Modification 8, Revision 1, Condition IV-D-4 (05/13/2010)]*
 - a. Testing shall be accomplished prior to the anniversary date of the previous successful performance test; and
 - b. Pursuant to AQR Section 4, the Control Officer may require additional testing.
- 8. The permittee shall implement changes to the GDO equipment (EU: W06) existing vapor recovery system if any performance test results indicate such changes are necessary to maintain compliance with Modification 8, Revision 1 ATC. *[NSR ATC Modification 8, Revision 1, Condition IV-D-5 (05/13/2010)]*

MSWL – Enclosed Flare

- 9. Performance testing for the enclosed combustion flare (EU: W11) and desulfurization system control device is subject to 40 CFR Part 60 Subpart A §60.8; 40 CFR Part 60 Subpart WWW and Air Quality’s Guideline on Source Testing. *[AQR 12.4.3.1(a)(9), 40 CFR Part 60 Subpart A and 40 CFR 60.754(d)]*
- 10. The permittee shall demonstrate compliance with the 40 CFR Part 60 Subpart WWW standard by reducing NMOC by 98 weight-percent or by reducing the outlet concentration of NMOC to less than 20 ppmv for the enclosed combustion flare (EU: W11) in accordance with 40 CFR Part 60 Appendix A: Method 25, 25C, or 18. Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant emission Factors (AP-42). *[40 CFR 60.754(d)]*
- 11. The permittee shall conduct subsequent performance testing on the enclosed combustion flare (EU: W11) for NMOC reduction no later than five years after the anniversary date of the previous performance test. *[AQR 12.4.3.1(a)(9)]*

MSWL – Open Flare

12. The permittee shall demonstrate compliance with 40 CFR 60.18(c)(1) by conducting an EPA Method 22 at least quarterly or whenever the open flare (EU: G27) is operated if no operation occurred during a calendar quarter. *[AQR 12.5.2.6(d)]*

MSWL – Desulfurization System Control Device

13. The permittee shall demonstrate compliance with the desulfurization system control device concentration limit in accordance with 40 CFR Part 60 Appendix A: Method 15 – Determination of Hydrogen Sulfide, Carbonyl Sulfide, and Carbon Disulfide Emissions from Stationary Sources. *[AQR 12.4.3.1(a)(9)]*
14. The permittee shall conduct subsequent performance testing on the desulfurization system control device no later than five years after the anniversary date of the previous performance test. *[AQR 12.4.3.1(a)(9)]*

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15. Performance testing for the turbine units (EUs: E01 and E02) is subject to 40 CFR Part 60, Subpart A 40 CFR 60.8; 40 CFR Part 60, Subpart KKKK and Air Quality Guideline on Performance Testing, as amended. *[AQR 12.4.3.1(a)(9) and 40 CFR 60.4400]*
16. The permittee shall submit for approval a performance testing protocol which contains testing, reporting, and notification schedules, test protocols, and anticipated test dates to the Control Officer not less than 45 nor more than 90 days prior to the anticipated date of the performance test. *[NSR ATC (05/19/2014)]*
17. The permittee shall conduct performance testing on the turbine units (EUs: E01 and E02) consistent with the pollutants and methods listed in Table III-D-3. *[16539_NSR ATC (05/19/2014)]*

Table III-D-3: Performance Testing Requirements (40 CFR Part 60, Appendix A)

Test Point	Pollutant	Method
Turbine Exhaust Stack	NO _x	Chemiluminescence Analyzer (EPA Method 7E)
Turbine Exhaust Stack	CO	EPA Method 10 analyzer
Turbine Exhaust Stack	Opacity	EPA Method 9
Turbine Exhaust Stack	SO ₂	Pursuant to 40 CFR Part 60, Subpart KKKK §60.4415
Stack Gas Parameters	---	EPA Methods 1, 2, 3, 4

18. The permittee shall conduct a fuel analysis for sulfur content annually, but no more than 14 calendar months apart, consistent with the requirements of 40 CFR 60.4415(a)(1). *[AQR 12.4.3.1(a)(9) and 40 CFR 60.4415]*
19. The permittee shall conduct subsequent performance testing for NO_x, CO, and SO₂ on the turbine units (EUs: E01 and E02) every year, consistent with the pollutants and methods listed in Table III-D-3. *[16539 NSR ATC (05/19/2014)]*

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20. The permittee shall submit for approval a performance testing protocol which contains testing, reporting, and notification schedules, test protocols, and anticipated test dates to the Control Officer not less than 45 nor more than 90 days prior to the anticipated date of the performance test. *[AQR 12.4.3.1(a)(9)]*
21. The permittee shall submit a complete and comprehensive final performance test report to the Control Officer within 60 days from the end of each performance test. *[AQR 12.4.3.1(e)(15)]*

22. The Control Officer may require additional or more frequent performance testing. *[AQR 4.5]*

E. RECORDKEEPING

1. The permittee shall comply with all applicable record keeping requirements of 40 CFR 60.7; 40 CFR Part 60, Subpart OOO; 40 CFR Part 60, Subpart WWW; 40 CFR Part 60, Subpart KKKK; 40 CFR Part 63, Subpart DDDDD; and any other applicable regulations. *[AQR 12.5.2.6(d)(2)]*
2. All records logs, etc. shall be made available to the Control Officer during regular business hours. *[AQR 12.5.2.6(d) & AQR 12.5.2.8]*
3. All records, logs, etc., or copies thereof, shall be kept on-site for a minimum of five years from the date the measurement, or data was entered. *[AQR 12.5.2.6(d) & AQR 12.5.2.8]*
4. Records and data required by this Operating Permit to be maintained by permittee may, at the permittee's expense, be audited at any time by a third party selected by the Control Officer. *[AQR 4.4 and AQR 12.5.2.8]*
5. The permittee shall maintain the following records on-site: *[AQR 12.5.2.6(d) & AQR 12.5.2.8]*

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- a. Daily inspections of water spray systems;
- b. Daily baghouse pressure differential (EUs: A04, A09, A58/A130, A62/A151, A79, and A104a);
- c. Monthly inspection and maintenance of baghouses (EUs: A04, A09, A58/A130, A62/A151, A79, and A104a);
- d. Dates and time when visible emission observations are taken, results of the observations, and the steps taken to make any necessary corrections to bring opacity into compliance;
- e. Performance test results;

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- f. The permittee shall maintain on-site a copy of each notification and report that was submitted to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification, Notification of Compliance Status, semiannual compliance report, or 5-year compliance report that was submitted. *[40 CFR §63.7555(a)(1)]*
- g. The permittee shall maintain on-site records of burner efficiency test results (EUs: P01 through P03);
- h. Dates and time when visible emission observations are taken, results of the observations, and the steps taken to make any necessary corrections to bring opacity into compliance (EU: P04);

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- i. Results of moisture testing (EUs: W01, W02, and W05);
- j. Results of the quarterly surface concentration monitoring for methane (EU: W100);
- k. Results of the quarterly background concentration monitoring for methane (EU: W100);

- l. Reading and location of each surface monitoring exceedances during the surface concentration monitoring for methane (EU: W100);
- m. Corrective actions taken and re-monitoring of any surface monitoring exceedance (EU: W100);
- n. Monthly measurements of the gauge pressure in the gas collection header;
- o. Monthly concentration of nitrogen or oxygen in the landfill gas;
- p. Monthly temperature of the landfill gas;
- q. Corrective actions taken if any exceedances were observed during the monthly wellhead monitoring for pressure, temperature or nitrogen/oxygen concentration;
- r. Monthly landfill cover integrity and repairs implemented;
- s. Continuous monitoring records of the combustion flare pH/temperature (EU: W11);
- t. Results of weekly measures of Desulfurization System Control Device outlet H₂S concentrations;
- u. Results of monthly grab sample laboratory analysis on Desulfurization System Control Device outlet H₂S concentrations;
- v. Testing, maintenance, and alarms issued by the desulfurization system pH/temperature continuous monitoring (EU: W11);
- w. Calculated quarterly average of the flow rate and heat input to the enclosed combustion flare (EU: W11) in MMBtu per hour and in consecutive 12-month total;
- x. Quarterly Method 22 results for the open combustion flare (EU: G27);
- y. Quarterly LFG heating value analysis results in MMBtu/dscf;
- z. A quarterly summary describing the deviations, if any, per the SSM plan in the capture and control system;
- aa. The nature, magnitude and duration of malfunctions, excess emissions, monitoring system downtimes, corrective actions taken, etc. during the operation of the open combustion flare and the enclosed combustion flare, as required by 40 CFR 60.7 (EUs: W11 and G27);
- bb. Vapor recovery system test results;
- cc. Performance test results;

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- dd. Logs of opacity observations with date and time of each observation, results of the observations, and any corrective action that was required;
- ee. Logs of hourly LFG fuel flow, recorded in pounds per hour or cubic feet per hour, and reported in cubic feet per hour, for each turbine (EUs: E01 and E02);
- ff. LFG analysis for fuel heating value (Btu/ft³), density (lbs/ft³), and MW (lb/lb-mole);
- gg. Records of monthly LFG analysis for concentrations (ppmv) of sulfur compounds, molecular weight of TRS, and TRS to SO₂ mole conversion factor;
- hh. Logs of maintenance and replacement of inlet air filters for each turbine (EUs: E01 and E02);

- ii. Logs of the consecutive 365 daily average TRS content of the LFG fuel;
- jj. Logs of the hourly average TRS content of the LFG fuel;
- kk. Records of hourly SO₂ emissions in lbs/hr, for the facility;
- ll. Records of hourly SO₂ emissions in lbs/MMBtu, per turbine;
- mm. Consecutive 12-month total quantity of LFG consumed in each gas turbine;
- nn. Consecutive 12-month total quantity of LFG consumed by the flare;
- oo. Copies of all reports, compliance certifications, other submissions;
- pp. Dates, times, and duration of each startup and shutdown cycle;
- qq. Time, date, and duration of each episode of SCR operation outside of normal operating parameters and the associated NO_x emissions;
- rr. The magnitude and duration of excess emissions, notifications, malfunctions, corrective actions taken, etc., as required by 40 CFR 60.7;
- ss. Performance test results;

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- tt. A record of any maintenance on any part of the Phase I equipment, including a general description of the maintenance;
 - uu. The date and time the equipment was taken out-of-service;
 - vv. The date of repair or replacement;
 - ww. A general description of the part location (e.g., pump, tank, nozzle number, etc.)
 - xx. A description of the problem; and
 - yy. The results of the daily inspections.
6. The permittee shall maintain the following records for reporting: *[AQR 12.5.2.6(d); AQR 12.5.2.8; and 40 CFR 60.757(f)]*
- a. Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d);
 - b. Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 60.756;
 - c. Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating;
 - d. All periods when the collection system was not operating in excess of 5 days;
 - e. The location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month;
 - f. The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of 40 CFR 60.755;
 - g. Monthly, consecutive 12-month total emissions for each emission unit in tons per year;

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- h. Monthly, consecutive 12-month total throughput for EUs: A01, A25, A37, A38, A62, A79, A108, A109, A130 and A136;
- i. Monthly, consecutive 12-month total number of blasts (EU: A127);
- j. Monthly, consecutive 12-month total amount of ANFO used for blasting (EU: A127);
- k. Monthly average of square footage of blasting area per blast (EU: A127);
- l. Monthly, consecutive 12-month total number of holes drilled (EU: A127);

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- m. Monthly, consecutive 12-month total hours of operation of the diesel powered electric generator (EU: P04);

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- n. Monthly, consecutive 12-month total amount of Vehicle Miles Traveled on the Paved and Unpaved Haul Roads (EUs: H01 and H02);
- o. Monthly, consecutive 12-month total amount of material (total liquids and solids) treated at the Soil Treatment facility (EUs: W01 and W02);
- p. Annual acceptance rate for the MSWL with the current amount of solid waste in-place, and the year-by-year acceptance rate per 40 CFR 60.758(a);
- q. Monthly, consecutive 12-month total amount of cover material used (EU: W05);
- r. Total stockpile area (EU: W09);
- s. Monthly, consecutive 12-month total amount of gasoline in gallons (EU: W06);
- t. Monthly, consecutive 12-month total hours of operation of each tipper engine (EUs: W222 through W226);
- u. Quarterly calculated average of the hourly and consecutive 12-month total LFG flow (in cubic feet or cubic meters) through the gas collection and control system;
- v. Monthly estimates of enclosed combustion flare (EU: W11) emissions and a consecutive 12-month total to be recorded;
- w. A quarterly summary of the hours of operation of the enclosed combustion flare (EU: W11);
- x. Monthly, consecutive 12-month total LFG flow to the open combustion flare in cubic feet (EU: G27);
- y. Monthly, consecutive 12-month total amount of waste placement (EU: W08);

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- z. Monthly, consecutive 12-month hours of operation of the two turbines (EUs: E01 and E02);
- aa. Monthly, consecutive 12-month total fuel flow to and hours of operation of the flare (EU: E03); and

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- bb. Monthly, consecutive 12-month total throughput of gasoline products (EU: W06).

7. All inspections, visible emission checks, and testing required under monitoring, logs, reports, and records shall include at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). *[AQR 12.5.2.6(d)]*
8. Should this stationary source, as defined in 40 CFR 68.3, become subject to the accidental release prevention regulation in Part 68, then the permittee shall submit an Risk Management Plan (RMP) by the date specified in Section 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 CFR 70 or 71. *[AQR 12.5.2.6(d)]*
9. The Control Officer reserves the right to require additional requirements concerning records and record keeping for this source. *[AQR 12.5.2.6(d)]*

F. REPORTING

1. All report submissions shall be addressed to the attention of the Control Officer. *[AQR 12.5.2.8(e)(4), AQR 21.4, and AQR 22.4]*
2. All reports shall contain the following: *[AQR 12.5.2.6(d)]*
 - a. A certification statement on the first page, i.e., “I certify that, based on information and beliefs formed after reasonable inquiry, the statements contained in this document are true, accurate and complete.” (A sample form is available from Air Quality); and
 - b. A certification signature from a responsible official of the company and the date certification.
3. The permittee shall include deviations specified in 40 CFR 63.1965 in its semiannual and annual reports. Specified deviations include periods when:
 - a. A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) of Subpart WWW are exceeded; and
 - b. A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.
4. The permittee shall submit an initial notification which includes the information in 40 CFR 63.9(b)(2)(i) through (v) and a statement that the turbines (EUs: E01 and E02) have no additional emission limitation requirements in 40 CFR Part 63, Subpart YYYY, and an explanation of the basis of the exclusion. *[40 CFR 63.6145(d)]*
5. The permittee shall submit to the Administrator an annual report on the dates specified in 40 CFR 63.6150(d) and according to Table 6 in 40 CFR Part 63 with the following: *[40 CFR 63.6150(c)]*
 - a. Fuel flow rate of each fuel to the turbines (EUs: E01 and E02) and the heating value used in calculations;
 - b. Demonstration that the heat input of the LFG is equivalent to 10 percent or more of the total fuel combusted on an annual basis;
 - c. The operating limits provided in this permit for the turbines (EUs: E01 and E02) and any deviations from these limits; and
 - d. Any problems or errors suspected with the LFG fuel flow meters.

6. The permittee shall submit semiannual reports to the Control Officer in accordance with the following requirements: *[AQR 12.5.2.6(d)]*
 - a. The report shall include each item listed in Condition III-E-6.
 - b. The report shall include any permit deviations, their probable cause and corrective or preventative actions taken.
 - c. The report shall be submitted to Air Quality within 30 calendar days after the end of the reporting period.
7. Regardless of the date of issuance of this Operating Permit, the source shall comply with the schedule for report submissions outlined in Table III-F-1: *[AQR 12.5.2.6(d)]*

Table III-F-1: Required Submission Dates for Various Reports

Required Report	Applicable Period	Due Date
Semiannual Report for 1st Six-Month Period	January, February, March, April, May, June	July 30 each year ¹
Semiannual Report for 2 nd Six-Month Period, Any additional annual records required.	July, August, September, October, November, December	January 30 each year ¹
Annual Compliance Certification Report	Calendar Year	January 30 each year ¹
Annual Emission Inventory Report	Calendar Year	March 31 each year ¹
Annual Emission Statement ²	Calendar year	March 31 each year ¹
Notification of Malfunctions, Startup, Shutdowns or Deviations with Excess Emission	As Required	Within 24 hours of the permittee learns of the event
Written Report of Malfunctions, Startup, Shutdowns or Deviations with Excess Emission	As Required	Within 72 hours of the notification
Deviation Report without Excess Emissions	As Required	Along with semiannual reports ¹
Excess Emissions that Pose a Potential Imminent and Substantial Danger	As required	Within 12 hours of the permittee learns of the event
Performance Testing Protocol	As required	No less than 45 days, but no more than 90 days, before the anticipated test date ¹
Performance Testing	As Required	Within 60 days from the end of the test ¹

¹ Each report shall be received by Air Quality on or before the due date listed. If the due date falls on a Saturday, Sunday or a Federal or Nevada holiday, then the submittal is due on the next regularly scheduled business day.

² Required only for stationary sources that emit 25 tons or more of nitrogen oxide (NO_x) and/or emit 25 tons or more of volatile organic compounds (VOC) during a calendar year.

8. The permittee must prepare a 5-year compliance report for each 5-year period for the boilers (EUs: P01, P02, and P03). The reports shall be postmarked or submitted no later than January 31 following the reporting period and shall include: *[40 CFR §63.7550]*
 - a. Company and Facility name and address;
 - b. Process unit information, emissions limitations, and operating parameter limitations;
 - c. Date of report and beginning and ending dates of the reporting period;
 - d. The total operating time during the reporting period; and
 - e. The date of the most recent tune-up for the boilers. Include the date of the most recent burner inspection if it was not done within 5 years and was delayed until the next scheduled or unscheduled unit shutdown.

9. The Control Officer reserves the right to require additional reports and reporting to verify compliance with permit emission limits, applicable permit requirements, and requirements of applicable federal regulations. *[AQR 4.4 and AQR 12.5.2.6(d)]*

G. MITIGATION

1. The source has no federal offset requirements. *[AQR 12.7]*

H. NONROAD ENGINES

Pursuant to Title 40, Part 1068.30 of the Code of Federal Regulations (40 CFR Part 1068.30), nonroad engines that are portable or transportable (i.e., not used on self-propelled equipment) shall not remain at a location for more than 12 consecutive months; otherwise, the engine(s) will constitute a stationary reciprocating internal combustion engine (RICE) and be subject to the applicable requirements of 40 CFR Part 63, Subpart ZZZZ; 40 CFR Part 60, Subpart IIII; and/or 40 CFR Part 60, Subpart JJJJ. Stationary RICE shall be permitted as emission units upon commencing operation at this stationary source. Records of location changes for portable or transportable nonroad engines shall be maintained, and shall be made available to the Control Officer upon request. These records are not required for engines owned and operated by a contractor for maintenance and construction activities as long as records are maintained demonstrating that such work took place at the stationary source for periods of less than 12 consecutive months.

Nonroad engines used on self-propelled equipment do not have this 12-month limitation or the associated recordkeeping requirements.

IV. OTHER REQUIREMENTS

1. The permittee shall not use, sell, or offer for sale any fluid as a substitute material for any motor vehicle, residential, commercial, or industrial air conditioning system, refrigerator freezer unit, or other cooling or heating device designated to use a CFC or HCFC compound as a working fluid, unless such fluid has been approved for sale in such use by the Administrator. The permittee shall keep record of all paperwork relevant to the applicable requirements of 40 CFR 82 on-site. *[40 CFR 82]*

V. ATTACHMENT 1

APPLICABLE REGULATIONS

REQUIREMENTS SPECIFICALLY IDENTIFIED AS APPLICABLE:

1. NRS, Chapter 445B.
2. Applicable AQR Sections:

Citation	Title
AQR Section 0	Definitions
AQR Section 4	Control Officer
AQR Section 5	Interference with Control Officer
AQR Section 8	Persons Liable for Penalties – Punishment: Defense
AQR Section 9	Civil Penalties
AQR Section 12 Through June 30, 2010	Preconstruction Review for New or Modified Stationary Sources
AQR Section 12.5	Part 70 Operating Permit Requirements
AQR Section 13.2(b)(1) AQR Section 13.2(b)(59) AQR Section 13.2(b)(82) AQR Section 13.2(b)(86) AQR Section 13.2(b)(106)	National Emission Standards for Hazardous Air Pollutants: NESHAP – Subpart A: General Provisions Subpart AAAA: Municipal Solid Waste Landfills Subpart ZZZZ: Stationary Reciprocating Internal Combustion Engines Subpart CCCCCC: Gasoline Dispensing Facilities Subpart DDDDDD: Industrial, Commercial, and Institutional Boilers and Process Heaters
AQR Section 14.1.1 AQR Section 14.1.68 AQR Section 14.1.76 AQR Section 14.1.81	Standards of Performance for New Stationary Sources (NSPS) – Subpart A: General Provisions Subpart OOO: Nonmetallic Mineral Processing Plants Subpart WWW: Municipal Solid Waste Landfill Subpart IIII: Stationary Compression Ignition Internal Combustion Engines
AQR Section 18	Permit and Technical Service Fees
AQR Section 25	Affirmative Defense for Excess Emissions due to Malfunctions, Startup and Shutdown
AQR Section 26	Emissions of Visible Air Contaminants
AQR Section 28	Fuel Burning Equipment
AQR Section 40	Prohibition of Nuisance Conditions
AQR Section 41	Fugitive Dust
AQR Section 42	Open Burning
AQR Section 43	Odors in the Ambient Air
AQR Section 70	Emergency Procedures
AQR Section 80	Circumvention

3. CAAA, Authority: 42 U.S.C. 7401, et seq.
4. Applicable 40 CFR Subsections:

Citation	Title
40 CFR 52.21	Prevention of Significant Deterioration (PSD)
40 CFR 52.1470	State Implementation Plan (SIP) Rules
40 CFR Part 60	Appendix A, Method 9 or equivalent, (Opacity)
40 CFR Part 60, Subpart A	Standards of Performance for New Stationary Sources (NSPS) – General Provisions
40 CFR Part 60, Subpart OOO	Standards of Performance for New Stationary Sources (NSPS) – Nonmetallic Mineral Processing Plants
40 CFR Part 60, Subpart WWW	Standards of Performance for New Stationary Sources (NSPS) – Municipal Solid Waste Landfill
40 CFR Part 60, Subpart IIII	Standards of Performance for New Stationary Sources (NSPS) – Compression Ignition Internal Combustion Engines
40 CFR Part 63, Subpart A	National Emission Standards for Hazardous Air Pollutants – General Provisions
40 CFR Part 63, Subpart AAAA	National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfill
40 CFR Part 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants: Stationary Reciprocating Internal Combustion Engines
40 CFR Part 63, Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters
40 CFR Part 63, Subpart CCCCC	National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
40 CFR Part 68	Risk Management Plan
40 CFR 70	Federally Mandated Operating Permits
40 CFR 82	Protection of Stratospheric Ozone

VI. ATTACHMENT 2 - APPLICABLE REGULATIONS EXCERPTS

Excerpts from Subpart KKKK – Standards of Performance for Stationary Combustion Turbines **§60.4360 How do I determine the total sulfur content of the turbine's combustion fuel?**

You must monitor the total sulfur content of the fuel being fired in the turbine, except as provided in §60.4365. The sulfur content of the fuel must be determined using total sulfur methods described in §60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see §60.17), which measure the major sulfur compounds, may be used.

§60.4365 How can I be exempted from monitoring the total sulfur content of the fuel?

You may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input for units located in continental areas and 180 ng SO₂/J (0.42 lb SO₂/MMBtu) heat input for units located in noncontinental areas or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit. You must use one of the following sources of information to make the required demonstration:

(a) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use in continental areas is 0.05 weight percent (500 ppmw) or less and 0.4 weight percent (4,000 ppmw) or less for noncontinental areas, the total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard

cubic feet and 140 grains of sulfur or less per 100 standard cubic feet for noncontinental areas, has potential sulfur emissions of less than less than 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input for continental areas and has potential sulfur emissions of less than less than 180 ng SO₂/J (0.42 lb SO₂/MMBtu) heat input for noncontinental areas; or

(b) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input for continental areas or 180 ng SO₂/J (0.42 lb SO₂/MMBtu) heat input for noncontinental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

§60.4415 How do I conduct the initial and subsequent performance tests for sulfur?

(a) You must conduct an initial performance test, as required in §60.8. Subsequent SO₂ performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). There are three methodologies that you may use to conduct the performance tests.

(1) If you choose to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see §60.17) for natural gas or ASTM D4177 (incorporated by reference, see §60.17) for oil. Alternatively, for oil, you may follow the procedures for manual pipeline sampling in section 14 of ASTM D4057 (incorporated by reference, see §60.17). The fuel analyses of this section may be performed either by you, a service contractor retained by you, the fuel vendor, or any other qualified agency. Analyze the samples for the total sulfur content of the fuel using:

(i) For liquid fuels, ASTM D129, or alternatively D1266, D1552, D2622, D4294, or D5453 (all of which are incorporated by reference, see §60.17); or

(ii) For gaseous fuels, ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see §60.17).

(2) Measure the SO₂ concentration (in parts per million (ppm)), using EPA Methods 6, 6C, 8, or 20 in appendix A of this part. In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 19-10-1981-Part 10, "Flue and Exhaust Gas Analyses," manual methods for sulfur dioxide (incorporated by reference, see §60.17) can be used instead of EPA Methods 6 or 20. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in appendix A of this part, and measure and record the electrical and thermal output from the unit. Then use the following equation to calculate the SO₂ emission rate:

$$E = \frac{1.664 \times 10^{-7} * (SO_2)_c * Q_{sd}}{P} \quad (\text{Eq. 6})$$

Where:

E = SO₂ emission rate, in lb/MWh

1.664 × 10⁻⁷ = conversion constant, in lb/dscf-ppm

(SO₂)_c = average SO₂ concentration for the run, in ppm

Q_{sd} = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to §60.4350(f)(2); or

(3) Measure the SO₂ and diluent gas concentrations, using either EPA Methods 6, 6C, or 8 and 3A, or 20 in appendix A of this part. In addition, you may use the manual methods for sulfur dioxide ASME PTC 19-10-1981-Part 10 (incorporated by reference, see §60.17). Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the SO₂ emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in §60.4350(f) to calculate the SO₂ emission rate in lb/MWh.

§60.4370 How often must I determine the sulfur content of the fuel?

The frequency of determining the sulfur content of the fuel must be as follows:

(b) *Gaseous fuel.* If you elect not to demonstrate sulfur content using options in §60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day.

(c) *Custom schedules.* Notwithstanding the requirements of paragraph (b) of this section, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (c)(1) and (c)(2) of this section, custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in §60.4330.

(1) The two custom sulfur monitoring schedules set forth in paragraphs (c)(1)(i) through (iv) and in paragraph (c)(2) of this section are acceptable, without prior Administrative approval:

(i) The owner or operator shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the applicable methods specified in this subpart. Based on the results of the 30 daily samples, the required frequency for subsequent monitoring of the fuel's total sulfur content shall be as specified in paragraph (c)(1)(ii), (iii), or (iv) of this section, as applicable.

(ii) If none of the 30 daily measurements of the fuel's total sulfur content exceeds half the applicable standard, subsequent sulfur content monitoring may be performed at 12-month intervals. If any of the samples taken at 12-month intervals has a total sulfur content greater than half but less than the applicable limit, follow the procedures in paragraph (c)(1)(iii) of this section. If any measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section.

(iii) If at least one of the 30 daily measurements of the fuel's total sulfur content is greater than half but less than the applicable limit, but none exceeds the applicable limit, then:

(A) Collect and analyze a sample every 30 days for 3 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, follow the procedures in paragraph (c)(1)(iii)(B) of this section.

(B) Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, follow the procedures in paragraph (c)(1)(iii)(C) of this section.

(C) Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (c)(1)(iv) of this section. Otherwise, continue to monitor at this frequency.

(iv) If a sulfur content measurement exceeds the applicable limit, immediately begin daily monitoring according to paragraph (c)(1)(i) of this section. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than the applicable limit, are obtained. At that point, the applicable procedures of paragraph (c)(1)(ii) or (iii) of this section shall be followed.

(2) The owner or operator may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of appendix D to part 75 of this chapter to determine a custom sulfur sampling schedule, as follows:

(i) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 grains/100 scf, no additional monitoring of the sulfur content of the gas is required, for the purposes of this subpart.

(ii) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 grains/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds half the applicable limit, then the minimum required sampling frequency shall be one sample at 12 month intervals.

(iii) If any sample result exceeds half the applicable limit, but none exceeds the applicable limit, follow the provisions of paragraph (c)(1)(iii) of this section.

(iv) If the sulfur content of any of the 720 hourly samples exceeds the applicable limit, follow the provisions of paragraph (c)(1)(iv) of this section.

§60.4400 How do I conduct the initial and subsequent performance tests, regarding NO_x?

(a) You must conduct an initial performance test, as required in §60.8. Subsequent NO_x performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test).

(1) There are two general methodologies that you may use to conduct the performance tests. For each test run:

(i) Measure the NO_x concentration (in parts per million (ppm)), using EPA Method 7E or EPA Method 20 in appendix A of this part. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in appendix A of this part, and measure and record the electrical and thermal output from the unit. Then, use the following equation to calculate the NO_x emission rate:

$$E = \frac{1.194 \times 10^{-7} * (NO_x)_c * Q_{std}}{P} \quad (\text{Eq. 5})$$

Where:

E = NO_x emission rate, in lb/MWh

1.194×10^{-7} = conversion constant, in lb/dscf-ppm

(NO_x)_c = average NO_x concentration for the run, in ppm

Q_{std} = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to §60.4350(f)(2); or

(ii) Measure the NO_x and diluent gas concentrations, using either EPA Methods 7E and 3A, or EPA Method 20 in appendix A of this part. Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the NO_x emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in §60.4350(f) to calculate the NO_x emission rate in lb/MWh.

(2) Sampling traverse points for NO_x and (if applicable) diluent gas are to be selected following EPA Method 20 or EPA Method 1 (non-particulate procedures), and sampled for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

(3) Notwithstanding paragraph (a)(2) of this section, you may test at fewer points than are specified in EPA Method 1 or EPA Method 20 in appendix A of this part if the following conditions are met:

(i) You may perform a stratification test for NO_x and diluent pursuant to

(A) [Reserved], or

(B) The procedures specified in section 6.5.6.1(a) through (e) of appendix A of part 75 of this chapter.

(ii) Once the stratification sampling is completed, you may use the following alternative sample point selection criteria for the performance test:

(A) If each of the individual traverse point NO_x concentrations is within ±10 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±5ppm or ±0.5 percent CO₂ (or O₂) from the mean for all traverse points, then you may use three points (located either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The three points must be located along the measurement line that exhibited the highest average NO_x concentration during the stratification test; or

(B) For turbines with a NO_x standard greater than 15 ppm @ 15% O₂, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO_x concentrations is within ±5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±3ppm or ±0.3 percent CO₂ (or O₂) from the mean for all traverse points; or

(C) For turbines with a NO_x standard less than or equal to 15 ppm @ 15% O₂, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO_x concentrations is within ±2.5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±1ppm or ±0.15 percent CO₂ (or O₂) from the mean for all traverse points.

(b) The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. You may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. You must conduct three separate test runs for each performance test. The minimum time per run is 20 minutes.

(1) If the stationary combustion turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel.

(2) For a combined cycle and CHP turbine systems with supplemental heat (duct burner), you must measure the total NO_x emissions after the duct burner rather than directly after the turbine. The duct burner must be in operation during the performance test.

(3) If water or steam injection is used to control NO_x with no additional post-combustion NO_x control and you choose to monitor the steam or water to fuel ratio in accordance with §60.4335, then that monitoring system must be operated concurrently with each EPA Method 20 or EPA Method 7E run and must be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the applicable §60.4320 NO_x emission limit.

(4) Compliance with the applicable emission limit in §60.4320 must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NO_x emission rate at each tested level meets the applicable emission limit in §60.4320.

(5) If you elect to install a CEMS, the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405) as part of the initial performance test of the affected unit.

(6) The ambient temperature must be greater than 0 °F during the performance test.

§60.4385 How are excess emissions and monitoring downtime defined for SO₂?

If you choose the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime are defined as follows:

(a) For samples of gaseous fuel and for oil samples obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(b) If the option to sample each delivery of fuel oil has been selected, you must immediately switch to one of the other oil sampling options (i.e., daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.05 weight percent. You must continue to use one of the other sampling options until all of the oil from the

delivery has been combusted, and you must evaluate excess emissions according to paragraph (a) of this section. When all of the fuel from the delivery has been burned, you may resume using the as-delivered sampling option.

(c) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

VII. ATTACHMENT 3 – SO₂ EMISSION CALCULATION METHOD

1. The permittee may calculate hourly SO₂ emissions with the following equations:

$$SO_2 \text{ emissions (lb/hr)} = LFG \text{ flow rate (lb/hr)} \times TRS \text{ concentration (ppmw)} \div 1,000,000 \times F \times 64.06 \div MW \text{ of TRS}$$

Where: 64.06 is the MW of SO₂ and

$$F = \frac{\sum_{i=1}^m (1 \times C_i) + \sum_{j=1}^n (2 \times C_j)}{C_{TRS}}$$

Where: F = sulfur mole conversion factor
 m = number of sulfide compounds
 n = number of disulfide compounds
 C_i = concentration of sulfide compound i in ppmv
 C_j = concentration of disulfide compound j in ppmv
 C_{TRS} = concentration of TRS in ppmv