



Air Pollution Control District  
San Luis Obispo County

**TITLE V PERMIT TO OPERATE  
PERMIT EVALUATION  
and  
STATEMENT OF BASIS  
for  
CHICAGO GRADE LANDFILL**

**Title V Application Number:** 6998  
**Facility ID:** 167  
**Site Number:** 0352  
**Permit Number:** 547-10  
**Other Applications Included:** N/A  
**Facility Address:** 2268 Carpenter Canyon Road  
San Luis Obispo, CA 93401  
**Permit Engineer:** David Whitney  
**Date:** December 26, 2020

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## I. Background and Facility Description

The owner/operator of Chicago Grade Landfill has submitted Application 6998 to renew the facility's Title V permit, Permit Number 547, for an additional five-year period. Permit 547 combines both the federal requirement for a permit under Rule 216 and the District's requirement for a permit under Rule 202, Permits. All federal, state, and District requirements associated with the emission of air contaminants are intended to be included in the combined permit. If there was any document that was not readily available to the public and was necessary to support an applicable federal requirement, it would be included as an appendix. However, the following documents necessary to support this permit are all readily available to the public and will therefore not be appended to the proposed permit: Code of Federal Regulations, California Code of Regulations and Health and Safety Code, District Rules and Regulations and all test methods. The administrative review requirements for this permit action are a 30-day public comment period, affected state notification, and 45-day EPA review. The public comment period and the EPA review period will run concurrently.

Two other significant operations occur at the Facility but are not subject to federal landfill gas control regulations. A household hazardous waste facility (SIC 9511) and a tire shredder (SIC 5093) are co-located with the landfill (SIC 4593). These are separate sources not subject to landfill gas control regulations and are therefore not included in the Title V permit.

For this renewed permit only relatively minor changes are being recommended. Modifications to the semi-annual and annual reporting due dates are being made to coincide with the other landfill operations' reporting due dates in the District thereby increasing the District's landfill reporting efficiency.

## II. Changes to Permit

### A. Reference Changes

Change in report due dates.

Relocate CO flare combustion emissions from condition 5b to condition 1f to be with the other flare combustion limits.

## III. Equipment Description

**Table 1:** Solid Waste Landfill and Corresponding Landfill Gas (LFG) Collection System Equipment.

Title	Capacity	Description
LFG main blower (1)	400 cfm	electrically driven
Enclosed ground flare	400 cfm maximum	John Zink ZTOF, 4.9 mmBTU/hr, propane fueled pilot, with continuous temperature and flow sensors and recorders
landfill property boundary perimeter wells		sample points to check for evidence of offsite gas migration
LFG extraction wells		sampling port upstream of the throttle valve
LFG collection and transport pipes and headers		

**Table 2:** Insignificant Equipment. The following equipment and equipment types are considered environmentally insignificant. This equipment is not subject to the provisions of this permit except for those units which are subject to a federally enforceable, generally applicable requirement as listed in section III.A.1.

Description	Basis for Insignificance
maintenance machining equip., e.g., drills, saws, presses	Rule 201.A.1
Household Hazardous Waste Facility	Rule 201.A.1
grounds maintenance equip., e.g., weed eaters, mowers	Rule 201.B.1
internal combustion engines rated at <50 bhp	Rule 201.B.1
domestic hot water heaters	Rule 201.B.2
graders, loaders, utility trucks, and other mobile equipment	Rule 201.C.1
storage tanks with <250-gallon capacity	Rule 201.I.1
diesel storage tanks used for vehicle refueling	Rule 201.I.3
lubricating oil storage	Rule 201.I.8
gasoline storage tanks used for vehicle refueling	Rule 201.I.9
architectural surface coating equipment	Rule 201.J.1
cold solvent cleaners	Rule 201.J.2
comfort air conditioning	Rule 201.M.1
pressure washer cleaning equipment	Rule 201.M.4
comfort space heating	Rule 201.M.5
welding equipment	Rule 201.N.2

## IV. Rules and Regulations Evaluation

### A. District Rules

#### **Rule 201, Equipment Not Requiring a Permit:**

Specific equipment exemptions are identified along with a general exemption for emissions of less than two pounds per day on a monthly operating day average.

Response: The facility has the potential to emit greater than 2 lb VOC/day, and additionally is required to be permitted as a Title V source through the Federal Part 70 permitting program. The facility is not exempt.

#### **Rule 204, Requirements (New Source Review):**

Reasonably Available Control Technology (RACT) is required for less than 25 pounds per day, Best Available Control Technology (BACT) is required for greater than or equal to 25 pounds per day, and offsets are required for greater than or equal to 25 tons per year (tpy). Section 204.C.2 exempts projects from control technology and offsets if the Net Emissions Increase (NEI) is less than 200 pounds per year. Section D requires that the project's emissions not result in an exceedance of an ambient air quality standard. Section E requires certification of statewide compliance for facilities with Potential to Emit (PTE) greater than or equal to 25 tpy.

Response: BACT has previously been determined to be compliance with the control requirements listed in the federal NSPS Subpart WWW. These requirements were included in the previous permit and are included in the current recommended permit operating conditions. In addition, the flare emission limits listed in District Rule 426 have also been determined to be BACT. Compliance with these requirements have been demonstrated and verified as part of site inspections, emissions source testing, and review of records.

#### **Rule 206, Conditional Approval:**

Conditions may be placed on an Authority to Construct or Permit to Operate to ensure compliance with all applicable requirements.

Response: Conditions which have triggered federal applicability historically have remained on the Permit to Operate as subject to the Rule. Some conditions which previously referenced Rule 206 have been changed to add the corresponding Subpart WWW references in the CFR with the phrase "when applicable."

#### **Rule 214, Notification:**

Newspaper public notice is required for an Authority to Construct which will increase PTE 100 pounds per day for NO<sub>x</sub>, ROG, or SO<sub>x</sub>; 80 pounds per day for PM<sub>10</sub>; and 550 pounds per day for CO.

Response: Potential to emit will not increase, therefore no additional notification is required beyond the standard notification procedures required for Federal Part 70 permit renewals.

#### **Rule 216, Federal Part 70 Permits:**

Major sources emitting greater than 100 tpy of a criteria air contaminant are required to obtain a federally enforceable operating (Title V) permit. This rule includes applicability criteria, application requirements, and procedures for permit content, review, issuance, and revision.

Response: All application requirements listed in 216.E for the reissuance of a Part 70 permit have been met. There are no significant modifications as defined in 216.C.21. Notification to the EPA, the public and the surrounding Districts will be made as required by this Rule. A notice will be published in the Tribune newspaper, which is a newspaper of general circulation in the District, and a 30-day public comment period will be initiated. Once the comment period is complete and all comments are addressed, the APCO intends to renew the permit.

**Rule 219, Toxics New Source Review:**

Applies to permitted sources that increase toxic emissions that result in  $\geq 1.0E-6$  risk or  $\geq 0.10$  HHI. Modified sources must increase toxic emissions above permitted or normal operating values to be subject. New and modified sources of toxic air contaminants must show that their emissions will cause a facility-wide cancer risk of  $< 1.0E-6$  and a non-cancer hazard index of  $< 0.1$ , unless they employ toxics best available control technology (TBACT). A facility-wide cancer risk equal to or greater than ten-in-a-million and/or a non-cancer hazard index equal to or greater than 1.0 are not allowed, unless the Air Toxics "Hot Spots" audit and reduction plan program is required along with Public Notification.

Response: There is no increase in potential to emit, so this rule does not apply. Continued compliance is indicated.

**Rule 302, Schedule of Fees:**

Establishes the fee amounts for application filing, permit issuance, permit renewal, and various other actions. Filing fees are credited toward subsequent permit action fees.

Response: An evaluation fee will be charged based on the actual time spent to review the application and issue the Permit to Operate. A \$220.00 filing fee was submitted with the application. The existing fee categories remain applicable, that is one fee category 29 for landfill gas collection (basic).

**Rule 401, Visible Emissions:**

This rule limits visible emissions to 20% opacity.

Response: The facility has water trucks available onsite for the mitigation of dust which results from earth moving activities associated with landfill activities. Compliance has been demonstrated and is expected to continue.

**Rule 402, Nuisance.**

No source of air pollution is allowed to create a public nuisance.

Response: The facility has demonstrated that they can operate in this area without creating a public nuisance. There are not complaints on record in the last permit operating period. Continued compliance is indicated.

**Rule 403, Particulate Emissions.**

Requires that particulate matter emissions not exceed 0.1 gr/dscf. A pound per hour limit is also included dependent upon the process throughput rate. PM emissions from fuel burning equipment is not to exceed 0.12 lb/mmBtu of fuel input.

Response: Particulate matter emissions from the fuel combustion equipment has demonstrated and continued compliance with the rule is expected.

**Rule 404, Sulfur Compounds Emission Standards, Limitations and Prohibitions:**

Limitations require that sulfur compound discharges must not exceed 0.2% (2,000 ppm) calculated as sulfur dioxide and that the sulfur content of gaseous and liquid fuels not exceed 50 gr/100 scf or 0.5% respectfully.

Response: Conditions have been included that limit the sulfur content of liquid and gaseous fuels to limits specified in the Rule. Continued compliance is indicated.

**Rule 405, Nitrogen Oxide Emission Standards, Limitations, and Prohibitions:**

Limits emissions to 140 lb/hr NO<sub>x</sub> for any new or modified stationary source.

Response: This Rule applies to new and/or modified fuel burning equipment and is not applicable as there are no new sources of fuel combustion. The flare combustion process is subject to Rule 426 and there are no other fuel burning pieces of equipment which would be subject to this Rule.

**Rule 426, Landfill Gas Emissions:**

Landfills with greater than 500,000 tons of waste in place are required to quantify their emissions and, if VOC emissions are greater than 15 tpy, install a gas collection and control system. The basic requirements are for no landfill surface leak exceeding 1,000 ppm as methane and either a minimum VOC destruction efficiency of ninety-eight percent (98%) or VOC emissions of less than 30 ppmv dry at three percent (3%) oxygen (O<sub>2</sub>). Section F lists the control equipment requirements of this rule. Source testing methods and procedures are also specified in this rule.

Response: There are no applicable control requirements under this rule because the estimated VOC emissions are less than the 15 ton per year threshold listed in Section E, REQUIREMENTS - GAS COLLECTION SYSTEM. Some of the Control Equipment and Test Methods, F.2 - NO<sub>x</sub> and CO limits in terms of pounds per million BTU heat input and G - Test Methods for surface leak testing and VOC destruction efficiency, are considered to be BACT and are included in the permit. Compliance with all requirements of this rule continues to be demonstrated as part of site inspections and stack emission testing on a biennial basis for the flare.

**B. State Regulations**

**17 CCR 95460, Methane Emissions from Municipal Solid Waste Landfills:**

Requirements are listed to reduce methane emissions from municipal solid waste (MSW) landfills pursuant to the California Global Warming Solutions Act of 2006 (Health & Safety Code, Sections 38500 et. seq.).

Response: A condition was added to the permit during the last Title V permit renewal which requires compliance with this regulation. Testing is conducted on a triennial basis to determine greenhouse gas emissions, and reporting is conducted on an annual basis as required by §95470(b)(3). Compliance is indicated.

**H&SC 44300, Air Toxics "Hot Spots":** A prioritization score should be evaluated for all new or modified sources, except in the case of non-diesel modified sources where there is no increase in emissions. All stationary diesel engines should be prioritized or screened for facility-wide cancer risk, including modified or replacement engines with a decrease or no increase in emissions.

Response: There were no modifications to the facility since the last Title V permit renewal. Because there were no modifications, a facility prioritization is not required to be conducted.

**C. Federal Regulations**

**40 CFR 63, Subpart AAAA, Municipal Waste Landfills:**

This regulation is applicable to landfills that are a major source, collocated with a major source, or an area source with design capacity greater than 2.5 million cubic meters and estimated uncontrolled emissions greater than 50 Mg/yr. Emission estimates must be calculated according to the methods listed in 40CFR 60.754(a).

Response: The uncontrolled NMOC emissions are far less than 50 Mg/yr. The requirements of Subpart AAAA are not applicable to the operation.

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

Requirements are listed to limit emissions from municipal solid waste landfills that have a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters as well as non-methane organic compound (NMOC) emissions of greater than 50 megagrams per year (Mg/year).

Response: The NSPS WWW section (Part 60) requires either an annual demonstration of emissions less than 50 Mg/yr or the installation of a compliant collection and control system. Using data from their LFG collection system, the operator has been submitting annual emission calculations to demonstrate emissions less than 50 Mg/yr NMOC. There are no control requirements applicable to the landfill operation that are triggered by thresholds in this regulation. That



being said, the operation has a landfill gas collection and control system in which many of the NSPS system operational specifications are being required as District-only requirements, Rule 206.

**40 CFR 61 Subpart M, National Emission Standard for Asbestos**

Requirements for the acceptance of asbestos waste are listed in 40CFR61.154, including signage and visible emissions.

Response: Not applicable to the landfill operation because they can only receive non-friable asbestos waste. If that waste were to become friable, due to cuts or abrasion, a permit condition requires that the now subject asbestos material be excavated and handled in accordance with all state and federal regulations.

**V. Emissions**

There is no increase in PTE. Estimated emissions for the flare appear below and are estimated using a worst-case scenario of 24 hours/day, 365 days/year.

**A. Flare Emissions**

The PTE for the flare is calculated based on the following factors:

- Rated heat input of flare: 4.9 mmBTU/hr.
- 2018 Source Test landfill gas heat content: 331 Btu/cf
- 2018 Source Test maximum fuel flow rate: 250 scfm.
- 2018 Source Test exhaust flow: 1735 scfm

**Table 3.** Emissions for the combustion of landfill gas through a flare.

	<b>VOC</b>	<b>NOx</b>	<b>CO</b>
Emission Factor reference	2018 ST	2018 ST	2018 ST
Emissions (ppm @ 3% O <sub>2</sub> )	1.9	10.5	0.0
Lb/hr	0.004	0.14	0.0
Lb/day	0.096	3.36	0.0
Lb/year	35.04	1,226.4	0.0
Tons/year	0.017	0.6132	0.0

$Lb/hr = ppm \times molec. \text{ wt.} \times scfm \times 1.581 \times 10^{-7}$

$NOx \text{ lb/hr} = 10.5 \text{ ppm} \times 46 \times 1735 \text{ scfm} \times 1.581 \times 10^{-7} = 0.13 \text{ lb/hr}$

$NOx \text{ lb/day} = 24 \text{ hrs/day} \times 0.13 \text{ lbs/hr} = 3.36 \text{ lbs/day}$

$NOx \text{ lb/yr} = 365 \text{ days/yr} \times 3.36 \text{ lbs/day} = 1,226.4 \text{ lbs/year}$

$NOx \text{ tons/year} = 1,226.4 \text{ lb/year} / 2000 \text{ lbs/ton} = 0.6132 \text{ tons/year}$

**VI. Conclusions/Recommendations**

Compliance with all applicable rules and regulations is indicated. A notice of this proposed action will be published in the Tribune, and a 30-day public comment period will be conducted. A copy of the proposed revised permit and this staff report will be sent to EPA Region 9 for their 45-day review and comment period. After these comment periods are complete, a revised Title V permit is recommended to be issued for another five-year period.