

# Landfills and the Air Pollution Control Division

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## Regulatory Overview

- APENs and Permits
- NSPS Cc and WWW
- MACT AAAA
- GHGs
- What's a 'facility'?
- Transfer stations, recycling, and composting
- Updates to AP-42



### AIR POLLUTANT EMISSION NOTICE (APEN) & Application for Construction Permit - General

Permit Number: \_\_\_\_\_ Emission Source AIRS ID: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

**Section 05 - Emission Release Information** (Attach a separate sheet with relevant information in the event of multiple releases; provide datum as either Lat/Long or UTM)

Operator Stock ID No.	Base Elevation (feet)	Discharge Height Above Ground Level (feet)	Temp (°F)	Flow Rate (ACFM)	Velocity (ft/sec)	Moisture (%)	Relevant Dates (OAD07, OAD03, WGS04)	UTM Zone (12 or 13)	UTM Easting or Northing (meters or degrees)	UTM Northing or Easting (meters or degrees)	Method of Collection By Location Data (e.g. map, GPS, GoogleEarth)

Direction of noise (check one):  Vertical  Vertical with obscuring ratecap  Horizontal  Down  Other (Describe): \_\_\_\_\_

Exhaust Opening Shape & Size (check one):  Circular: Inner Diameter (inches) = \_\_\_\_\_  Other: Length (inches) = \_\_\_\_\_ Width (inches) = \_\_\_\_\_

**Section 06 - Combustion Equipment & Fuel Consumption Information**

Company equipment identification No.: \_\_\_\_\_ Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Fuel Type	Design Input Rate (10 <sup>3</sup> Btu/hr)	Actual Level (For Date Year)	Annual Required Permitted Level* (Specify Units)	Fuel Heating Value (Btu/lb, Btu/gal, Btu/SCF)	Percent by Weight		Seasonal Fuel Use (% of Annual Use)								
					Gas/Oil	Asb	Oct-Feb	Mar-May	Jun-Aug	Sep-Nov					

\*Required values will become permit limitations. Required level should consider process growth over the next five years.

**Section 07 - Emissions Inventory Information & Emission Control Information**

Attach any emissions calculations and emission factor documentation to this APEN form.

Emission Factor Documentation attached. Enter year for actual calendar year emissions below & throughout above (e.g. 2017).

Pollutant	Control Device Description		Overall Collection Efficiency (%)	Control Efficiency (% Reduction)	Emission Factor		Actual Calendar Year Emissions*		Required Permitted Emissions*		Emission Method or Emission Factor Source
	Primary	Secondary			Uncensored Basis	Units	Uncensored (Tons/Year)	Controlled (Tons/Year)	Uncensored (Tons/Year)	Controlled (Tons/Year)	
TSP											
PM <sub>10</sub>											
PM <sub>2.5</sub>											
SO <sub>2</sub>											
NO <sub>x</sub>											
VOC											
CO											

Please use the APCD Non-Criteria Reportable Air Pollutant Addendum form to report pollutants not listed above.

\*Annual emissions fees will be based on actual emissions reported here. If left blank, annual emissions fees will be based on required emissions.

\*\*Required Permitted Emissions in left blank, the APCD will calculate emissions based on the information supplied in sections 05 - 07.

**Section 08 - Applicant Certification** - I hereby certify that all information contained herein and information submitted with this application is complete, true and correct.

Signature of Person Legally Authorized to Supply Data: \_\_\_\_\_ Date: \_\_\_\_\_ Name of Legally Authorized Person (Please print): \_\_\_\_\_ Title: \_\_\_\_\_

Page 2 of 2 Form APCD-300 General APEN Ver 9-10-2008.doc

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Air Pollution Control Division

### SUPPLEMENT TO AIR POLLUTANT EMISSION NOTICE FOR MUNICIPAL LANDFILL

Permit Number: \_\_\_\_\_ AIRS Number: \_\_\_\_\_

Company Name: \_\_\_\_\_ County: \_\_\_\_\_

Landfill Location: \_\_\_\_\_ City: \_\_\_\_\_

Billing Address: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Phone to Contact: \_\_\_\_\_ Phone Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Type of Materials Accepted	Quantity Accepted to Date (Give Units)	Required Acceptance Rate (Give the Year)	Total Quantity Accepted/Prohibited as Change	Remarks

Landfill is subject to:  HSP, WFW  Landfill  Committed operation on \_\_\_\_\_

Emission Declaration  In compliance operation on \_\_\_\_\_

Other \_\_\_\_\_  Not closed on \_\_\_\_\_

Prohibited Closure date \_\_\_\_\_

Landfill Gas Control (give description): \_\_\_\_\_

Collection Efficiency: \_\_\_\_\_ %

Control Efficiency: \_\_\_\_\_ %

List Control Equipment Emission Factors and Reference the Emission Factor Source: \_\_\_\_\_

Report emissions on the Air Pollution Emission Notice and the Non-Criteria Reportable Air Pollutant Notice Addendum Form. For fugitive particulate matter emissions, please complete the details on the reverse side.

The APCD is currently using AP-42 Section 2.4 to estimate landfill gas emissions. The Landfill Gas Emissions Model is based on this section and can be used to calculate emissions. LandfillGas can be found on the EPA TTV-17027 web page. Please attach any emissions model output and input with the application.

Signature of a Responsible Official (not a reader or consultant): \_\_\_\_\_ Date: \_\_\_\_\_

Please (please print): \_\_\_\_\_ Title: \_\_\_\_\_

Revised July 2001 <http://www.cdph.ca.gov/air/airquality/landfill>



# Construction Permits

- For smaller landfills
- Include conditions for waste acceptance, emissions, and particulate matter (dust) control
- Permits are valid indefinitely, unless a change is requested

FILE COPY STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
AIR POLLUTION CONTROL DIVISION  
TELEPHONE: (303) 862-2108

**CONSTRUCTION PERMIT**

PERMIT NO: 05LK0241 INITIAL APPROVAL

DATE ISSUED: JULY 3, 1988

ISSUED TO: Lake County Landfill

THE SOURCE TO WHICH THIS PERMIT APPLIES IS DESCRIBED AND LOCATED AS FOLLOWS:

Municipal solid waste landfill located on Lake County Municipal Solid Waste Landfill Facility, located at 1803 County Road 8, near Leadville, Lake County, Colorado.

THE SPECIFIC EQUIPMENT OR ACTIVITY SUBJECT TO THIS PERMIT INCLUDES THE FOLLOWING:

Operation of a municipal solid waste landfill site with a design capacity of 200,000 megagrams of non-hazardous solid waste (as defined in 6 CCR 1017-2) and an estimated life of 14 years. Fugitive particulate emissions from excavation, waste handling, hauling and stockpiling. Landfill gas generation, which is uncontrolled.

THIS PERMIT IS GRANTED SUBJECT TO ALL RULES AND REGULATIONS OF THE COLORADO AIR QUALITY CONTROL COMMISSION AND THE COLORADO AIR POLLUTION PREVENTION AND CONTROL ACT (C.A.R.A. 201-191) (C.A.P.P.), TO THOSE GENERAL TERMS AND CONDITIONS INCLUDED IN THIS DOCUMENT AND THE FOLLOWING SPECIFIC TERMS AND CONDITIONS:

1. Waste emissions shall not exceed federal maximum (FME) limits during normal operation of the source. During periods of startup, process modification, or adjustment of control equipment waste emissions shall not exceed 20% capacity for more than six months in any sixty consecutive months (Reference: Regulation 1, SECTION 8.A.1, 8.A.4).
2. Emissions of air pollutants shall not exceed the following limitations (as indicated in the Division's preliminary analysis) (Reference: Regulation 2, Part B, 8.A.6):  
Fugitive Particulate Matter: 20.3 tons per year  
Fugitive PM<sub>10</sub> (Particulate Matter <10 µm): 7.38 tons per year

Note: Compliance with the above particulate emission limits shall be demonstrated by following the attached particulate control plan, and by not exceeding the limits in Condition 6.

3. A nearest Air Pollutant Emission Notice (APEN) shall be filed (Reference: Reg. 2, Part A, 8.C)

ARG POINT ID 0501001001-002

## Operating Permits

- Also called Title V permits
- Required for landfills with a *Design Capacity* of
  - More than 2.5 million Mg and
  - More than 2.5 million cubic yards
- Comprehensive (and longer) permit
- Must be renewed every 5 years



Colorado Department  
of Public Health  
and Environment

### **OPERATING PERMIT**

Waste Management of Colorado, Inc.  
Buffalo Ridge Landfill

Issued: April 1, 2005

## NSPS Cc and WWW

- Federal rules adopted by the State of Colorado
- Address calculations, test methods and control measures for landfill gas
- Cc applies to “existing” landfills
- WWW applies to landfills that were constructed, or had a design capacity increase, on or after May 30, 1991
- Requirements are the same

## MACT AAAA

- Also a federal rule adopted by Colorado
- Applies to landfills with uncontrolled NMOC emissions above 50 Mg/yr
  - Typically, landfills with gas collection systems
- Refers to NSPS WWW for many of its requirements
- Has additional requirements for bioreactors

## Requirements for Small Landfills

- Submit a design capacity report
- File an APEN and APEN updates
- Obtain a Construction Permit
- Submit an amended design capacity report if the capacity changes

## Requirements for Large Landfills

- Submit a design capacity report
- File an APEN and APEN updates
- Obtain a Title V permit
- Reporting
  - Annual NMOC emission reports
  - Semi-annual and annual Title V reports
- Gas control systems when NMOC emissions exceed 50 Mg/yr

## New Landfills

- File an APEN and obtain an Air permit *before* you start to construct the landfill

## GHGs

- EPA has released draft GHG reporting measures
- Colorado has no plans for separate reporting requirements right now
- Check our website for information updates ([www.cdphe.state.co.us/ap/index.html](http://www.cdphe.state.co.us/ap/index.html))

## Design Capacity

Defined by EPA as “the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the State, local, or Tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit.”

## What’s a “Facility”?

- For Air Programs,
  - Open and closed areas of the same landfill
  - Closed landfill that is adjacent to an open landfill, if there’s common ownership or control
  - Adjacent landfills owned by different entities, depending on the situation
  - Non-adjacent landfills owned by the same entity, if it also owns land that connects the landfills

## Maps – See Handouts

- Scenario 1:
  - A: One owner/operator
  - B: Closed and active areas owned by the county and operated by a contractor; new area is owned and operated by the contractor

## Maps, continued

- Scenario 2:
  - A: Landfills 1 & 2 have one owner/operator
  - B: 'Landowner 4' also owns Landfills 1 & 2

## Maps, continued

- Scenario 3:
  - A: All Areas have the same owner/operator, Area 3 only accepts C&D (no MSW)
  - B: Areas 1 & 2 have the same owner/operator, Area 3 has a different owner/operator, and all areas accept MSW

## Answers:

### What counts towards the NSPS Design Capacity?

- Scenario 1:
  - A:
  - B:
- Scenario 2:
  - A:
  - B:
- Scenario 3:
  - A:
  - B:

## Transfer Stations, Recycling, and Composting

- No Air Regulations specifically for Transfer Stations
- No Air Regulations specifically for Recycling operations
- Composting requirements would depend on the waste types, practices, and emissions
- If the activity is co-located with a Title V source, check with your permit engineer

## Changes in AP-42

- Changes are in draft form now
- Comments are due to Tom Driscoll in the EPA Measurement Policy Group by May 5, 2009
  - [driscoll.tom@epa.gov](mailto:driscoll.tom@epa.gov)
- Default concentrations of LFG constituents are changing
  - Existing table remains in place for landfills with a majority of waste in place before 1992
  - New table for landfills with a majority of waste in place on or after 1992

## Changes in AP-42, cont.

- Updated control efficiencies based on test data
  - Caveat: the default control efficiency in AP-42 for engines is **higher** than what Colorado test data has shown
  - If applying for a permit with a new control device, consider what control efficiency and emission limits you want to ask for
- Table was revised to show NMOC and VOC control efficiencies

## Changes in AP-42, cont.

- Revised and expanded the recommended emission factors for secondary compounds emitted from control devices
  - Need to consider this if your landfill wants to install LFG control before NSPS requires it, as some HAP emissions can **increase** when LFG is combusted

## Changes in AP-42, cont.

- Optical Remote Sensing with Radial Plum Mapping (ORS-RPM) was added to the discussion of available options for measuring landfill emissions
- A factor of 1.3 was added to the landfill gas emission calculation
  - Use  $Lo = 130$  until LandGEM is updated (if not done concurrently)
  - When LandGEM is updated, return to using  $Lo = 100$

## Changes in AP-42, cont.

- Start using the new AP-42 methods once they are published as final
- Apply for a permit modification, if needed, by the April 30<sup>th</sup> after the methods are finalized (April 30, 2010)
- Submit an APEN update to revise actual emissions, if needed, by the April 30<sup>th</sup> after the methods are finalized

Questions?

Break



Up Next: Inspections

## Inspection Checklist

- Activity and Location in the Permit
  - Do they match the site?
  - Any other activities on site (i.e., solidification basin, sand and gravel equipment)?
  - Is the entire landfill (closed and active portions) described by the permit?
  - Is the correct entity listed as the owner and/or operator?

## Solidification Basins

- File an APEN and obtain a construction permit BEFORE constructing or operating a solidification basin
- Calculate or estimate VOC, PM, and HAP emissions

## Inspection Checklist - Reporting

- Is the APEN up to date?
- Is the Design Capacity on file with APCD correct?
- Are NMOC reports filed on time?
- Are other reports filed correctly and on time?
  - Title V
  - NSPS
  - SSM

## Inspection Checklist - Records

- Are all required records being kept?
  - Waste acceptance
  - Checks for fugitive dust
  - Wind speed and weather closures
  - Application of dust control measures
  - Checks for smoke from a flare

## Inspection Checklist - Calculations

- Are all calculations required by the permit complete and up to date?
- Are all calculations made as described by the permit? (emission factors, methodology)
- Are the results in compliance with the permit limits?

## Inspection Checklist – Site Conditions

- Are there any un-permitted activities?
  - Solidification basin
  - Concrete or asphalt plants
- Are the particulate emissions control measures being implemented?
- Are site-specific permit conditions being met?

## Fugitive Particulate Emissions

- Construction Permits
  - “Particulate Emissions Control Plan” is attached to the permit
  - Measures listed were used by the Division engineer to calculate fugitive emissions
  - The Control Plan must be followed
  - If you can’t follow it, ask for a permit modification to change the Control Plan

## Fugitive Particulate Emissions

- Title V Permit
  - Control measures are listed in the permit conditions
  - Measures listed were used in emissions calculations and must be followed
  - Measures can be changed via a permit modification

## Division Expectations for PM

- **Implement the control plan**
- **Take reasonable measures to reduce emissions**
- If the inspection finds a lot of on-site dust, or dust leaving the property, this is a concern
  - If the control plan is not being implemented, it could be an enforcement issue
  - If the control plan is being implemented, but isn't enough, then the plan might need to be modified

## Expectations for PM, continued

- Other considerations
  - Is it an on-going problem?
  - Are measures in the plan typically sufficient?
  - Are we getting complaints, or are neighbors being impacted?

## Odors

- Regulation 2 applies to odors at facilities state-wide
- Sets an odor standard
- Compliance with Reg 2 is required by all permits
- Exceedances of the standard are permit violations
- Odors are read from off property

## Fires

- Not specifically addressed in permits
  - Do not allow / authorize burning of MSW
- APCD expectation is that action will be taken to avoid fires, and put them out as quickly as possible
- If you do have a fire, please notify APCD of the:
  - Location and size
  - How and when it started
  - Actions being taken to extinguish the fire

## Best Practices

- Know how you're tracking waste acceptance and calculating emissions
- Read your permit and call us if you have questions about your requirements
- Submit design capacity report updates as needed

## Best Practices, cont.

- Additional dust suppression techniques
  - MgCl
  - Applying recycled asphalt to haul road(s)
  - Speed bumps
  - Speeding warnings or tickets to drivers
- Other ideas?

Questions?

Break

A decorative horizontal bar with a gradient from yellow to purple. It features a floral pattern on the left and a textured, abstract pattern on the right.

Up Next: Help Session