



## Guidance Document

### -Municipal Solid Waste Landfills- Air Pollutant Emissions Notice (APEN)

Version 1-22-2013

The following guidance document is intended to provide further detail on completing the Air Pollutant Emissions Notice (APEN) for Municipal Solid Waste Landfills. Please include the permit number and AIRS ID of the reported equipment if the Air Pollution Control Division (APCD) has previously assigned these numbers. If you applying for a construction permit for the first time leave these spaces at the top of the form blank.

The APEN submitted is valid for five (5) years from the date it is received by the APCD. An APEN update must be submitted to the APCD no later than 30 days before this 5-year term expires. The applicant must submit a filing fee with each APEN submitted. The application will not be processed without an APEN filing fee.

An applicant may group emission points on a single APEN according to Regulation No. 3, Part A, II.B.4. *Guidance on emissions source grouping may be found online at [www.cdphe.state.co.us/ap/down/Ps95-013.pdf](http://www.cdphe.state.co.us/ap/down/Ps95-013.pdf).*

**All sections of the APEN must be completed prior to submittal to the APCD.** An application with missing information may be determined incomplete and may be returned to you or result in longer engineer processing times. If a section does not apply to the landfill, enter an “NA” in that section.

Begin the APEN form by checking the box that correctly explains your intent for submitting the APEN form e.g., New Landfill, Transfer of Ownership or No Change, APEN Update Only. This information is vital to the APCD in processing your APEN correctly.

**New Landfill, Applying for Construction Permit:** Check this box if the landfill has not been assigned a permit number and you are applying for a new air permit. Sources will be issued a *Construction Permit* or an *Operating Permit* depending on the landfill design capacity and/or emissions.

**Transfer of Ownership:** Check this box if the landfill has changed ownership. For transfer of ownership or company name change, you must submit proof of ownership such as a transfer of ownership form (available online at [www.cdphe.state.co.us/ap/downpermitforms/TransferOwnership.pdf](http://www.cdphe.state.co.us/ap/downpermitforms/TransferOwnership.pdf)) signed by the previous owner or a copy of a Bill of Sale with this APEN form.

**Change in Waste Acceptance:** Check this box to change your permitted waste acceptance limit or to change the types of waste the landfill is permitted to accept.

**Change in Design Capacity:** Check this box if the design capacity of the landfill has changed. Complete the “Design Capacity Report Form” and submit it with this APEN. New landfills must also submit the “Design Capacity Report Form” with this APEN.

**No Change in Permit, APEN Update Only:** Check this box to update your APEN without any permit modifications. If you submit an APEN to update your actual calendar year emissions, this will also update the 5-year APEN term. Please review your previously submitted APEN and permit to verify that no changes have occurred that would require a permit modification prior to submittal of an APEN update. Other than the 5-year term expiration, a revised APEN must be submitted: prior to transfer of ownership, prior to installation of new or replacement equipment (includes pollution control equipment), to change a permit limit or condition and whenever a significant change in annual (calendar year) actual emissions occurs.

- **A significant change for a Criteria Air Pollutant** is defined as:  
Sources that emit 100 tons per year or more: any change of 5% or 50 tons/year or more of actual emissions, whichever is less.  
Sources that emit less than 100 tons per year: any change of 5 tons/year or more of actual emissions, except for sources of volatile organic compounds and nitrogen oxides in ozone nonattainment areas which must report any change of 1 ton/year or 5% of actual emissions, whichever is greater.  
**A significant change for Non-Criteria Reportable Air Pollutants** (See Regulation 3, Part A, Appendix A) is defined as: Any increase of 50% or 5 tons/year of actual emissions, whichever is less.

**Request Other Permit Modification:** Check this box if you are requesting changes to the existing air permit e.g., changes in operations, equipment, control equipment that will affect your existing air permit limits.

## **SECTION 01 – ADMINISTRATIVE INFORMATION**

This section contains general information for the company. Include the correct person to contact for questions regarding the APEN and contact information for the Landfill Operator if this information is different from the Landfill Owner. Please include the appropriate zip code for the landfill, owner and operator, if applicable.

## **SECTION 02 – GENERAL INFORMATION**

Dates of construction assist the Division in determining duration of the landfill, expected closure dates and which federal rules the source is subject to.

- Existing: Commenced construction, reconstruction or modification before May 30, 1991 (Subject to NSPS Subpart Cc).
- New: Commenced construction, reconstruction or modification on or after May 30, 1991 (Subject to NSPS Subpart WWW).
- Was closed on: this means the date the landfill is no longer accepting solid waste, not the date landfill completed closure activity.
- Projected closure date: the estimated year (based on a maximum design capacity) that the landfill will no longer be able to accept municipal solid waste (MSW).

## **SECTION 03 – DESIGN CAPACITY INFORMATION**

Design capacity means the maximum amount of solid waste a landfill can accept (volume and mass) as indicated by 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 permit.

Select the box that best describes the landfill: “New or previously unreported”, “Change to a previously reported design capacity” or “No change to design capacity”. If there is no change, report the date the most recent Design Capacity Report was submitted.

Landfill owners/operators are required to submit the initial design capacity report (available online at [www.cdph.state.co.us/ap/downloadforms.html](http://www.cdph.state.co.us/ap/downloadforms.html)) to the APCD. Landfill calculations shall be reported in megagrams (Mg) and cubic meters (m<sup>3</sup>). Calculate m<sup>3</sup> by multiplying yd<sup>3</sup> by 0.7646. Calculate Mg by multiplying tons by 0.907. Note: One yd<sup>3</sup> of compacted MSW is approximately 0.5523 Mg and one Mg is equal to .61 tons.

Select the local/state/federal regulations you believe the landfill may be subject to:

- “Existing” MSW landfills that commenced operation prior to May 30, 1991 are subject to the federal New Source Performance Standard (NSPS) Subpart Cc.
- “New” MSW landfills that commenced operation or increased the design capacity on or after May 30, 1991 are subject to the NSPS Subpart WWW. Both NSPS Cc and WWW address calculations, test methods and controls measure for landfill gas.
- Construction permits (air permit) are required for landfills with a Design Capacity of less than 2.5 million megagrams (Mg) by mass or less than 2.5 million cubic meters (m<sup>3</sup>) by volume. These landfills must submit the MSW Landfill APEN and the Design Capacity Report prior to commencing construction of the landfill.
- Operating permits (also called Title V permits) are required for landfills with a Design Capacity of more than 2.5 million Mg by mass and more than 2.5 million cubic meters by volume. These landfills must submit the MSW Landfill APEN, a Design Capacity Report and submit calculations for the landfill’s Non-Methane Organic Compounds (NMOC) emission rate. These sources must first obtain a construction permit and then apply for an operating permit within 12 months of commencing landfill operations.
- The National Emission Standards Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills Subpart AAAA applies to landfills with uncontrolled NMOC emissions above 50 megagrams (Mg) per year. This NESHAP refers to NSPS WWW for many of its requirements.
- List ‘Other’ requirements the landfill may be subject to, if known or applicable.

## **SECTION 04 – WASTE ACCEPTANCE INFORMATION**

Check the box that correctly indicates in what units you measure solid waste acceptance at the landfill e.g., tons, cubic yards or other (please specify). If you use cubic yards, please specify gate volume or in-place volume).

Specify the types of materials that are or will be accepted at the landfill e.g., MSW, PCS, fly ash, liquid wastes such as sludge or grease trap waste from municipal sources. Petroleum Contaminated Soils (PCS) emissions should be included on the landfill APEN with the other landfill emissions along with a copy of the LandGEM report. Exploration and Production waste (E & P) such as produced water, drilling muds and cuttings from oil and gas operations are included as PCS waste. Refer to the PCS guidance, “Petroleum Contaminated Soils (PCS) at Landfills: Emission Estimation Procedures” for more information when it becomes available (PCS guidance is currently DRAFT).

Actual Annual Waste Acceptance rate: refers to the quantity of MSW or other materials accepted into the landfill during the previous year. Please specify units and year for which reporting.

Requested Annual Acceptance: This level will become your air permit limit (maximum allowed). Please specify the units. This level should be higher than the actual level to allow room for growth. Since the APEN term is 5 years, you may want to request a permit limit that will consider growth over the next five years.

By year, specify the landfill’s annual waste acceptance rate: Specify units. Landfill Gas Emissions Model (LandGEM) data can be used to provide this information. If you use LandGEM, check the box indicating LandGEM data has been submitted with this APEN. If historical acceptance rates are estimates, include documentation with the APEN submittal to show how these acceptance rates were calculated.

## **SECTION 05 – OTHER LANDFILL ACTIVITIES**

Check appropriate box(es) to indicate other activities and/or equipment at the landfill. These activities may require the submission of a separate APEN. If the information provided is an estimate, include documentation with the APEN submittal to show how the estimates were calculated. This section will help the permit engineer determine if additional information or APEN/Permits will be required for the landfill.

1. Composting can be a source of GHGs, VOCs, particulate matter, and ammonia (NH<sub>3</sub>) in reportable amounts. Composting activities should be reported on the General APEN if they meet or exceed de minimis reporting levels.
2. Engines, generators, sand and gravel operations and other activities and/or equipment may require landfill personnel to file a separate Air Pollutant Emission Notice (APEN). Contact the Division for assistance.
3. Leachate from a landfill varies widely in composition depending on the age of the landfill and the type of waste that it contains. If leachate is reused on site (reapplied to the waste, sprayed for dust control, stored or evaporated, etc) it can generate VOC and HAP emissions. Landfill owners/operators must evaluate their operations and determine if VOC or HAP emissions exceed a reporting threshold, and if so, must report the emissions on a General APEN form. On this APEN, report the annual quantity of leachate disposed of onsite and the disposal method(s) used. If actual data is not available, indicate if emissions are estimated on the APEN or as an attachment to the APEN.
4. Parts washers, depending on the solvent used, may be required to be reported to the Division. Certain parts cleaners use solvents that contain HAPs and VOCs. These solvents would be reported on the General APEN.
5. Emissions from sand and gravel operations on a landfill site must be reported on separate APENs. Submit the APEN titled “Mining Operations” to report mining operations (such as sand and gravel pits and surface coal mines). The General APEN should be used to report crushing, screening, or other equipment operating at the site: [www.cdphe.state.co.us/ap/downloadforms.html](http://www.cdphe.state.co.us/ap/downloadforms.html). Depending on the production rate and the equipment used, an Air Permit may be required for the operation.
6. Emissions from a solidification basin vary depending upon the type of waste accepted and the landfill’s disposal practices. Landfill owners/operators must list any solidification basins here, and file a separate General APEN to report activities and emissions. Include the type(s) of wastes accepted and the solidification media, and attach documentation of the VOC and HAP content of the waste(s) accepted. Once the waste is removed from the solidification basin, it becomes part of the landfill emissions and must be considered in LandGEM calculations.

## **SECTION 06 – FLARE INFORMATION (e.g., Flares)**

Enter “NA” in this section if your facility does not operate a flare.

**Type of Equipment:** List the type(s) of flare used at the landfill (i.e. *Open flame flare, Enclosed flame flares, other enclosed combustion technologies...*) if applicable. Include the equipment identification number (if applicable), Manufacturer, Make, Model and Serial Number.

**Fuel Type:** Specify the type of fuel used in the equipment (e.g. Landfill Gas, Natural Gas, Fuel Oil, etc.).

**Design Input Rate:** List the capacity of the combustion unit in million (10<sup>6</sup>) BTU per hour.

**Actual Fuel Usage Level:** The actual amount of fuel used annually (e.g. scf/yr). Use the previous calendar year to determine this level if possible. You need to note the “data year” in Section 07 of this APEN.

**Annual Requested Permitted Level:** This level will be your permit limit (maximum allowed). Specify the units that relate to your request (e.g. scf/yr.). This level should be higher than the actual level to allow room for growth. Since the APEN term is 5 years, you may want to request a permit limit that will consider growth over the next five years.

**Fuel Heating Value:** For gaseous fuels use BTU/scf.

## **SECTION 07 – EMISSIONS INVENTORY INFORMATION**

Attach a copy of LandGEM with the APEN form. A landfill would typically use the following parameters for LandGEM:

- Methane Generation Rate (k) = .02
- Potential Methane Generation Capacity (L<sub>0</sub>) = 100
- Methane Content = 50%
- C<sub>NMOC</sub> value used for emissions calculation: Use 956.4 ppmv if the landfill has not conducted a Tier 2 test. Use the site-specific value if landfill has an approved Tier 2 test, and list the test date.

**Pollutant:** Lists the types of air pollutants that are emitted at the landfill. For each, list the types of controls, control efficiencies, actual emissions during the current or last calendar year, and the requested emissions limits. PM 10 and PM 2.5 emissions are from point sources such as flares. NOTE: the Requested Emissions will become your permit limits; ask for limits you can comply with now and in the future.

**Control Device Description:** List all air pollution control equipment used for controlling emissions through the stack or vent, according to the pollutant it controls (one device may be listed more than once).

**Overall Collection Efficiency:** Landfill gas (LFG) collection efficiency is the percentage of generated LFG a system collects. Use the standard collection efficiency of 75 percent, or submit information to support a site-specific collection efficiency.

**Control Efficiency:** A measure of how efficient the reported control device will control the captured emissions. Generally, use the control device manufacturer’s control efficiency or a control efficiency established during a stack test.

Note: Total pollutant emission reductions will be based on both the collection efficiency and control efficiency. Submit site-specific collection and control data, if applicable to your facility.

**Emission Factor:** List the emission factor used to calculate the emission rates listed in the emission columns. The Division will determine the emission factor in the event that the applicant is unable to determine it. Include the units that relate to the emission factor (e.g. lb/scf, lb/ton). “Uncontrolled Basis” means the emission factor prior to taking any credit for reductions due to a control device.

**Emission Factor Source:** Identify how your emissions were estimated. Example emission factor sources/methods include: LandGEM, EPA’s AP-42, Manufacturer’s Emission Factors, stack test results, and Mass Balance. If emission estimations are based upon methods other than those supplied by the Division or EPA, sufficient supporting documentation must be included.

**Actual Calendar Year Emissions:** The actual quantity of pollutants emitted annually. **LandGEM estimates emissions for the Current Year based on waste in place at the end of the Last Calendar Year.** Note the Reporting year (in the box above) that was used to determine these actual emissions.

“Uncontrolled” = calculated emissions prior to taking any credit for reductions due to a control device.

“Controlled” = calculated emissions downstream from any control device.

**Requested Permitted Emissions:** This level will be your permit limit (maximum allowed). The requested emission level should relate to the annual requested fuel usage, acceptance rates, etc. listed in the APEN. Consider your operations and ask for limits you can comply with now and in the future.

## **SECTION 08 – FUGITIVE DUST CONTROL MEASURES**

This section is used to estimate fugitive dust emissions generated by vehicles hauling, loading and unloading municipal solid waste and other waste materials at the landfill. Control measures are used to develop the fugitive dust control plan for the landfill and are incorporated into the air permit.

Vehicle Type: List the type of vehicles used to deliver materials to the landfill. Typical vehicles include Commercial Trash Trucks and Private Vehicles.

No. of Vehicles: This number should represent the maximum number of vehicles of each type that would exist at the landfill for onsite hauling and loading/unloading of waste materials in a certain time period.

Time Period: List the period of time in which the number of vehicles above is calculated above e.g., day, week, month.

Loaded Vehicle Weight: The average loaded vehicle weight (includes the average weight of the vehicle plus the haul load in tons).

Length of Haul Road: This distance should represent the maximum length (one-way) that the haul vehicles will transport the MSW and other materials into the landfill (to load out points).

Maximum Posted Speed Limit on Haul Road: List the maximum posted speed limit on the haul road. If no speed limit signs are posted, provide the average speed on the haul road.

Controls for onsite hauling and loading/unloading: Check the box that best describes fugitive dust control measure to be implemented on the haul road e.g., watering, paved or graveled surfaces, chemical stabilizers and/or other control measures.

Maximum Soil Handling/Removal: This subsection is used to estimate fugitive dust emissions generated from haul truck and loader traffic during the activity of handling and removal of soil in the landfill. Check the box that best describes the types of control(s) used to minimize fugitive dust during soil handling and removal e.g., moist material, watering and/or other control measures.

Total Area of Site: Represents the total area of the landfill site in acres.

Total Disturbed Area: Represents the total area that has been disturbed in acres.

Controls used in the Disturbed Area: Check the box that best describes the types of control(s) used to minimize fugitive dust in disturbed areas of the landfill e.g., watering, revegetation, compaction and/or other control measures.

## **SECTION 09 – APPLICANT CERTIFICATION**

An original signature, the date signed, printed name and title of person legally authorized to supply data must be provided.

Additional guidance can be obtained by contacting the Air Pollution Control Division at (303) 692-3150, or online at [www.cdphe.state.co.us/ap/stationary.html](http://www.cdphe.state.co.us/ap/stationary.html).

The Small Business Assistance Program is available to help you at (303) 692-3175 or 3148 or online at [www.cdphe.state.co.us/ap/sbap/index.html](http://www.cdphe.state.co.us/ap/sbap/index.html).