

**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 46650**

I. INTRODUCTION

This Class I Air Quality Control Permit is for the operation of a Municipal Solid Waste Landfill located south of Yuma, Arizona. This municipal solid waste landfill is operated by South Yuma County Landfill, LLC. (SYCL).

A. Company Information

Facility Name: South Yuma County Landfill (SYCL)

Facility Address: 16536 South Avenue 1E
Yuma, AZ 85365, Yuma County

Mailing Address: PO Box 5437
Yuma, AZ 85366-5437

B. Background

This source is a Municipal Solid Waste Landfill.

C. Attainment Classification

The location of the SYCL is in an attainment area for criteria pollutants nitrogen oxides (NO_x) and Ozone (O₃). It is currently in a non-attainment area for particulate matter (PM₁₀) based on air quality in 2002. ADEQ has developed a maintenance plan for the Yuma area and has submitted it to EPA for approval.

II. FACILITY DESCRIPTION

A. Process Description

The SYCL was designed as an area fill landfill. The SYCL has been designed to exceed a design capacity of 2.5 million cubic meters and 2.5 million megagrams (Mg). The design capacity of the facility has been recently revised to 2.66 million Mg.

The SYCL accepts residential wastes, commercial wastes, construction debris, industrial special wastes and other acceptable non-hazardous wastes from the area it serves. Wastes acceptable for landfilling at the SYCL include:

- Municipal refuse (garbage, paper products), pesticide containers (clean, rinsed and punctured), and other wastes from households or commercial facilities;

- Construction debris (wood, concrete, dirt, rocks, vegetation and gypsum wallboard);
- Dead animals;
- Asbestos-containing waste materials;
- Treated medical wastes;
- White goods without chlorofluorocarbons (CFCs);
- Septage wastes acceptable for solidification;
- Non-hazardous industrial waste; and,
- Other non-hazardous special wastes (Petroleum Contaminated Soils).

Unacceptable wastes include hazardous waste, biohazardous medical waste, and polychlorinated biphenyl waste.

B. Air Pollution Control Equipment:

Dust control is accomplished by watering traffic areas with water pumped from an on-site well. Areas where cover soil is excavated are also watered. Additionally, landfill vehicle speed limit is 5 mph. Daily soil cover at least six-inches thick is placed on all refuse deposited on the landfill surface that day and compacted. The compaction and the moist soil or PCS utilized for daily cover limits the emissions from the landfill.

III. EMISSIONS

The uncontrolled emissions for years 2009 and 2014 are given below.

Table 1: Facility-Wide Emissions

Pollutant	Emissions (Yr 2009)	Emissions (Yr 2014)
	Mg / year	Mg / year
Non-Methane Organic Compounds (NMOC)	14	24

Pollutant	Emissions (Yr 2009)	Emissions (Yr 2014)
	Tons/year	Tons/year
PM	23.17	60.66
PM ₁₀	7.37	18.29
NO _x	-	-
SO ₂	-	-
VOC	7.16	11.18
CO	-	-
HAPs	1.27	2.07
PM _{2.5}	0.82	1.92

The emissions are based on 3% annual disposal growth rate. The South Yuma County Landfill is not expected to exceed the 50 Mg/yr threshold during the current permit period. The NMOC emissions at the end of the permit period will be approximately 24 Mg/yr.

The Permittee must recalculate the emissions when the annual disposal growth rate is greater than 3%. When the landfill approaches the 50 Mg/yr threshold, it will be required to implement a landfill gas collection system.

IV. APPLICABLE REGULATIONS

The applicable regulations were identified by the Department as part of the permitting process. If necessary, the source is required to list any additional regulations that may be applicable.

Table 2: Verification of Applicable Regulations

Unit	Date of Construction / Installation	Control Device	Rule	Verification
MSW Landfill	N/A	Required when NMOC > 50 Mg/yr	40 Code of Federal Regulations (CFR) 60, Subpart WWW, 40 CFR 63 Subpart AAAA	40 CFR 60 Subpart WWW regulates emissions of landfill gas from MSW landfills. National Emission Standard for Hazardous Air Pollutants (40 CFR 63 Subpart AAAA) requires a Startup, Shutdown and Malfunction (SSM) plan to be in place when the facility has a collection and control system in place.
Fugitive dust sources	N/A	Water and other reasonable precautions.	Article 6 of the A.A.C.	These standards are applicable to all fugitive dust sources.
Asbestos Handling	N/A	N/A	40 CFR 61.154 (Subpart M)	Standards for disposal of asbestos-containing waste
Mobile sources	N/A	Water Sprays/Water Truck for dust control	Article 8 of the A.A.C.	Opacity requirements for smoke and dust for mobile sources (construction equipment, etc.).
Stratospheric Ozone	N/A	N/A	40 CFR 82, Subpart F	Requirements for control of ozone-depleting substances
Liquid Waste Solidification Process	N/A	N/A	A.A.C. R18-2-730	Standards of Performance for Unclassified Sources

V. LEARNING SITES POLICY

In accordance with ADEQ's Environmental Permits and Approvals Near Learning Sites Policy, the Department conducted an evaluation to determine if any nearby learning sites would be adversely impacted by the South Yuma County Landfill. Learning sites consist of all existing public schools, charter schools and private schools at the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

There are no learning sites within two miles of the facility. The Department has determined that the operation of the facility will not adversely affect any learning sites.

VI. IMPACTS TO AMBIENT AIR QUALITY

1. Introduction

The SCREEN3 model was used to complete the air dispersion modeling analysis. The SCREEN3 model was run using screening meteorology, rural dispersion coefficients, and flat terrain.

SCREEN3 is a steady state, single source, Gaussian dispersion model developed to provide an easy to use method of obtaining pollutant concentration estimates. SCREEN3 is a USEPA approved screening model for estimating impacts at receptors located in simple terrain and complex terrain due to emissions from simple sources. The model is capable of calculating downwind ground level concentrations due to point, area, and volume sources. In addition, SCREEN3 incorporates algorithms for the simulation of aerodynamic downwash induced by buildings.

2. National Ambient Air Quality Standards Modeling Analysis Overview

Table 3 below shows the SCREEN3 results of NAAQS analysis for PM₁₀. PM₁₀ is within the standard.

Table 3: Modeling Analysis

Pollutant	24-hr		Annual	
	Total Conc. [$\mu\text{g}/\text{m}^3$]	Standard	Total Conc. [$\mu\text{g}/\text{m}^3$]	Standard
PM ₁₀	77.69	150	20.14	50

VII. MONITORING AND RECORDKEEPING REQUIREMENTS

A. NMOC Emissions

Monitoring Requirements

The permit contains requirements for calculating and monitoring NMOC emissions on an annual basis, per 40 CFR 60, Subpart WWW. The Permittee is required to keep track of NMOC emissions in order to determine when and if the 50 Mg/yr threshold will be reached. When the threshold is reached, then a collection and control system is required, and additional monitoring requirements are triggered. It is anticipated that South Yuma County Landfill will not trigger the additional requirements during the permit term. However, the additional requirements have been included in the permit.

Compliance Assurance Monitoring (CAM) requirements do not apply to this facility, because the facility does not currently have any kind of pollution control device, and pre-control emissions are below the major source threshold.

B. Liquid Waste Solidification Process

1. Monitoring Requirements

Opacity

The permit specifies opacity limitations for the various point sources located within the facility. Visible emission surveys are to be performed by a certified Method 9 observer monthly. If the opacity of the emissions observed appears to exceed the standard, the observer is required to conduct a certified EPA Reference Method 9 observation.

2. Record Keeping Requirements

Opacity

The Permittee is required to record the emission point being observed, location of the observer, date, time and the results of all Method 9 observation made monthly, as well as the name of the observer who conducted the test. In the event of opacity going beyond the limit, the Permittee will keep a record of the corrective action taken to bring the opacity below the standard.

C. Fugitive Dust

1. Monitoring Requirements

Opacity

The permit requires monthly visual surveys of fugitive emissions by a certified Method 9 observer. If the opacity of the emissions observed appears to exceed the standard, the observer is required to conduct a certified EPA Reference Method 9 observation.

2. Recordkeeping Requirements

The Permittee is required to record the emission point being observed, date, time and the results of all observations made, as well as the name of the observer who conducted the test. In the event of opacity going beyond the limit, the Permittee must keep a record of the corrective action taken to bring the opacity below the standard.

D. Asbestos

The Permittee is required to maintain shipment records of all asbestos containing materials that enter the landfill.

E. Ozone Depleting Materials

The Permittee is required to comply with the requirements of 40 CFR 82.

VIII. REPORTING REQUIREMENTS

Title 40 CFR 60, Subpart WWW requires the Permittee to submit an initial design capacity and NMOC emission reports to both the EPA and ADEQ Director. The source has complied with this requirement by submitting the initial design capacity and NMOC emission rate reports during the permitting process.

IX. INSIGNIFICANT ACTIVITIES

This table includes a listing of insignificant activities.

Tank #	Storage Tank	Storage Volume (gallons)	Justification
SC-93001993	Diesel Tank	500	Insignificant activity, A.A.C. R18-2-101(57)(c)

X. NONROAD ENGINES

The Department has determined that the following engines meet the requirements of nonroad engines as specified in 40 CFR 89.2 and 40 CFR 90.3. The engines listed below are portable or transportable and are positioned on a service truck or pulled on wheels. Also, the engines will not remain at one location for more than 12 consecutive months.

EQUIPMENT TYPE	MAX. CAPACITY	MAKE	S.NO / EQUIPMENT ID NUMBER
Air Compressor	13 hp	Honda	GCANK-123548
Residential Generator & Motor	5 kw & 10 hp	Coleman & Subaru	G06000104B2 & EX30

XI. LIST OF ABBREVIATIONS

- A.A.C.....Arizona Administrative Code
- CAM.....Compliance Assurance Monitoring
- CFR.....Code of Federal Regulations
- COCarbon Monoxide
- EPA.....Environmental Protection Agency
- HAPsHazardous Air Pollutants
- NO_x.....Nitrogen Oxides
- NSPS.....New Source Performance Standard
- PM.....Particulate Matter
- PM₁₀.....Particulate Matter Less than 10 Microns
- PTE.....Potential to Emit
- SO₂Sulfur Dioxide
- VOC.....Volatile Organic Compounds
- Yr.....Year