

San Diego County Air Pollution Control District (District)



Otay Landfill Public Meeting

September 13, 2021

Meeting Agenda

Hot Spots

Purpose of this meeting
Air Toxics and the “Hot Spots” Program

Otay Landfill

Background and Facility Operations
Facility Emissions and Health Risk
Future Landfill Operational Measures

Public Comment

Next Steps
Receive public comments
Answer questions

Sources of Toxic Air Contaminants



Stationary
Sources



Mobile Sources



Area Sources

California Air Toxics “Hot Spots” Program (Assembly Bill 2588)

Program Goal

- Protects the public’s right to know about toxic air contaminant emissions and how these emissions can potentially impact public health; and,
- Requires health risk reductions for facilities with elevated health risks

Toxic Air Contaminants

- Chemicals emitted into the atmosphere that may cause adverse health effects

Adverse Health Effect

- Range from minor eye or throat irritation, shortness of breath, or headaches, to cancer, birth defects, or damage to organs

California Air Toxics “Hot Spots” Program

**Quantify Toxic
Air Contaminant
Emissions**

**Identify Facilities
that may Present
Public Health
Concerns**

**Request Health
Risk
Assessments**

**Implement
Public
Notification and
Risk Reduction
Requirements**

Air Toxics “Hot Spots” Program Health Risks

Cancer Risk

Calculates the probability that a person would contract cancer if exposed to emissions for 30 years

Health Hazard Index

Calculated for acute exposure (or short-term health impacts) and chronic exposure (or long-term health impacts)

Index < 1 → no adverse health effects

Index ≥ 1 → potential for adverse health effects

Cancer Burden

Estimates of the number of people that can contract cancer within a community that is exposed to the emission levels

Existing Public Notification and Risk Reduction Thresholds

Health Risk	Public Notification Threshold	Risk Reduction Threshold
Cancer Risk	10 in one million	100 in one million
Acute Noncancer Health Hazard Index	1.0	1.0
Chronic Noncancer Health Hazard Index	1.0	1.0
Cancer Burden	1.0	1.0

Otay Landfill Operations

- Landfill opened by County of San Diego in 1963.
- Began accepting municipal solid waste (MSW) in 1967
- Operated by Republic Services (formerly Allied Waste) since 2007
- Permitted for 61 million cubic yards of MSW over 230 acres
- Approx. 1.3 million tons of MSW deposited annually
- Total of 47 million tons of MSW in place to date



Otay Landfill Equipment

- Active non-hazardous waste landfill operation
 - Landfill
 - Landfill gas collection system
 - Landfill gas flares
 - Paved and unpaved haul roads
 - Quarry operation
 - Daily cover application
 - Daily cover stockpiles
- Green Waste Grinding Process
 - 3 Diesel Engines (140-1050 bhp)



Otay Landfill Emissions Inventory

Criteria Pollutants	2013 (tons/yr)
Carbon Monoxide (CO)	3.3
Nitrogen Oxides (NOx)	23.6
Particulate Matter (PM10)	313.4
Reactive Organic Gases (ROG)	32.9
Total Organic Gases (TOG)	3920.3
Sulfur Oxides (SOx)	4.3
Total Particulates (TSP)	740.0

Toxic Air Contaminants	2013 (lbs/yr)
Arsenic	10
Diesel Particulate	230
Nickel	11
Silica, Crystalline	56,665

Health Risk Assessment Results for Otay Landfill 2013 Emissions

Maximum Residential Cancer Risk	32.95 in one million
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Maximum Worker Cancer Risk	3.76 in one million
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Maximum Residential Chronic Non-Cancer Health Hazard Index	2.09
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Maximum Worker Chronic Non-Cancer Health Hazard Index	2.76
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Maximum Residential Acute Health Hazard Index	0.37
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Maximum Worker Acute Health Hazard Index	0.77
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Population Excess Cancer Burden	0.62
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Maximum Residential Cancer Risk

32.95 in one million

Pollutant	Contribution
Arsenic	86%
Benzene	4%
Cobalt	2%
Ethylbenzene	2%

Source	Contribution
Unpaved Haul Roads	53%
Stockpiles	30%
Landfill	11%
Diesel Engines	5%
Paved Haul Road	1%



Residential Chronic Non-Cancer Health Risk

Health Hazard Index: 2.09

Pollutant	Contribution
Arsenic	77%
Silica, Crystalline	20%
Nickel	1%
Hydrogen Sulfide	1%

Source	Contribution
Unpaved Haul Roads	60%
Stockpiles	34%
Landfill	2%
Paved Haul Road	2%
Quarrying	1%



Worker Chronic Non-Cancer Health Risk

Health Hazard Index: 2.76

Pollutant	Contribution
Arsenic	69%
Silica, Crystalline	27%
Nickel	2%
Hydrogen Sulfide	2%

Source	Contribution
Unpaved Haul Roads	62%
Stockpiles	33%
Landfill	2%
Paved Haul Road	2%
Quarrying	1%



Next Steps

