

Modification Application for Risk Reduction Activities Otay Landfill

Otay Landfill, Inc.
1700 Maxwell Road
Chula Vista, California 91911
619-421-3773

SCS ENGINEERS

01205144.33 | September 2024 (Revised
December 2024)

4683 Chabot Drive, Suite 200
Pleasanton, CA 94588

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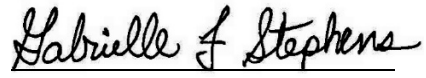
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This document is dated December 2024 and was prepared and reviewed by the following:



Gabrielle F. Stephens
Vice President



Patrick S. Sullivan, REPA, CPP, BCES
Senior Vice President
SCS ENGINEERS

1.0 INTRODUCTION

1.1 OVERVIEW

This application, prepared by SCS Engineers (SCS), on behalf of Otay Landfill, Inc. (OLI) details the risk reduction activities that will be implemented at the Otay Landfill (Otay or landfill) to reduce health risk. This document serves as both a modification application to have these risk reduction activities permitted, as well as serving as the risk reduction audit and plan (RRAP) detailed in San Diego Air Pollution Control District (SDAPCD or District) Rule 1210 (e).

SDAPCD Rule 1210 (e) reads as follows:*(1) Except as provided in Subsections (e)(2), (e)(3) and (e)(4), within six months of receipt of written notice from the Air Pollution Control Officer that a stationary source's most recent approved public health risk assessment indicates potential public health risks equal to or greater than one or more of the following significant risk mitigation levels, the owner or operator shall submit to the Air Pollution Control Officer, for review for completeness, a stationary source toxic air contaminant risk reduction audit and plan:*

(i) Maximum incremental cancer risks equal to or greater than 100 in one million, or

(ii) Cancer burden equal to or greater than 1.0, or

(iii) Total acute noncancer health hazard index equal to or greater than 1.0, or

(iv) Total chronic noncancer health hazard index equal to or greater than 1.0.

The risk reduction audit and plan shall contain airborne toxic risk reduction measures proposed by the owner or operator which will be sufficient to reduce the stationary source emissions to levels that result in potential public health risks below the significant risk mitigation levels specified above. Such emission reductions shall be accomplished within five years of the date the plan is submitted to the Air Pollution Control Officer.

(5) The risk reduction audit and plan submitted by the owner or operator shall contain all of the following:

(i) The name, location and standard industrial classification (SIC) code of the stationary source.

(ii) The identification of the emission units and toxic air contaminants emitted by each emission unit that contribute to potential public health risks above the significant risk mitigation levels specified in Subsection (e)(1). Emission units shall be listed by decreasing contribution to the total potential public health risks estimated for the stationary source. Toxic air contaminants shall be listed for each emission unit by decreasing contribution to the potential public health risk estimated for that unit.

The plan need not include identification of emission units which emit toxic air contaminants in amounts which the approved public health risk assessment indicates Regulation XII -14- Rule 1210 do not cause maximum incremental cancer risks greater than 1.0 in a million, nor a total acute noncancer health hazard index of 1.0 or greater, nor a total chronic

noncancer health hazard index of 1.0 or greater. The plan shall include identification of all emission units for which the owner or operator proposes to reduce toxic air contaminant emissions as part of the risk reduction audit and plan.

1.2 BACKGROUND INFORMATION

1.2.1 Applicant Name and Address

Otay Landfill, Inc.
1700 Maxwell Road
Chula Vista, CA 91911

1.2.2 Facility Address

Otay Landfill
1700 Maxwell Road
Chula Vista, CA 91911

1.2.3 Nature of Business

Municipal Solid Waste Landfill

1.2.4 Persons to Contact Regarding Application

Marco Cervantes
Environmental Manager
Otay Landfill, Inc.
1700 Maxwell Road
Chula Vista, CA 91911
(619) 332-9021
MCervantes2@republicservices.com

Gabrielle Stephens
Vice President
SCS Engineers
4683 Chabot Drive, Suite 200
Pleasanton, CA 94588
(562) 355-6510
gstephens@scsengineers.com

1.2.5 Operation Schedule

11 hours per day
6 days per week
52 weeks per year

1.2.6 Status of Application

This is a modification application for risk reduction activities.

1.2.7 Facility Status

Existing facility

2.0 PROJECT DESCRIPTION

2.1 EXISTING OPERATION

Otay is located in Chula Vista, California. The Site is owned and operated by OLI. The primary function of Otay is for the disposal of municipal solid waste (MSW) (Standard Industrial Code (SIC) #4953). The landfill is equipped with a landfill gas (LFG) collection and control system (GCCS), the original objective of which was to control the migration of combustible gases to off-site soils (California Code of Regulations [CCR] Title 27). However, over time, the GCCS has been expanded and enhanced to comply with federal, state, and local air quality regulations.

The OLI GCCS consists of vertical and horizontal extraction wells used to collect the LFG, a high-density polyethylene (HDPE) piping collection system used to convey the collected LFG, and a blower/flare station (BFS) used to destruct the collected LFG. The BFS consists of a John Zink flare (No. 1) rated at 150 million British Thermal Units per hour (MMBtu/hr) and a Perennial flare (No. 2) rated at 48 MMBtu/hr.

2.2 REASON FOR PERMITTING ACTION

OLI received notice from the SDAPCD that the 2021 health risk assessment (HRA) indicated that public risk was above the significant risk mitigation levels under Rule 1210. This requires OLI to submit a RRAP within six months. This document will define risk reduction measures that can be incorporated into and implemented by the facility's air permit (APCD2009-PTO-971112).

3.0 RISK REDUCTION

Otay contains the following emission units that contribute to public health risks above the significant mitigation levels:

- Landfill (area source)
- Diesel engines (point source)
- Flares (point sources)
- Stockpiles (area sources)
- Unpaved and paved haul roads (line volume sources)

3.1 RISK CONTRIBUTION

As required by the California H&S code, section 44360, the District requested an HRA on November 15, 2022 for the 2021 calendar year. OLI submitted an HRA to the District on May 14, 2023. The District provided comments on the HRA as well as comments provided from the Office of Environmental Health Hazard Assessment (OEHHA) to Otay Landfill on October 12, 2023. OLI submitted a revised HRA to the District on December 11, 2023. The District approved the HRA on March 21, 2024.

According to the 2021 HRA, the specific contaminants that contribute the most to the residential cancer risk are arsenic (63 percent (%)), and to a lesser extent, benzene (13%), vinyl chloride (8%),

and ethylbenzene (6%). By far, the largest contributor to cancer risk are metals, specifically arsenic, being released in combusted landfill gas (LFG) from the John Zink flare (No. 1) (51%). The RRAP is required due to residential cancer risk exceeding ten in one million. Therefore, sources and TACs contributing to the risk will be the focus of this RRAP.

3.2 RISK REDUCTION EVALUATION

The largest contribution to health risk for Otay is a non-volatile metal (arsenic) presumed to being released by the John Zink flare. Please note that the 2021 HRA included residential cancer risk contribution from unpaved roads of approximately 15%. The risk reduction plan associated with reduction of risks from these unpaved haul roads that was submitted in 2021, and subsequently approved as a requirement of the 2017 HRA results, was not implemented in the 2021 HRA. However, the approved plan has since been implemented by OLI and contributes to the risk reduction of toxics and metals from unpaved haul roads that contributed 15% of the cancer risk. These risk reduction measures should be considered as risk reduction for the 2021 HRA.

We believe the SDAPCD based the arsenic emissions for the LFG flare on sampling results for arsine and trimethylarsine from testing in 2016 through 2018 at multiple landfills in the District. Testing for Otay Landfill was conducted on June 15, 2016. However, the analyses were not performed using a United States Environmental Protection Agency (EPA) or other regulatory agency approved method nor from an accredited laboratory. We do not believe that all arsine and trimethylarsine is converted to arsenic during combustion; therefore, the emissions used for the 2021 HRA may be overstated. This was the case for a landfill facility in the Santa Barbara County Air Pollution Control District (SBCAPCD) where the SBCAPCD assumed arsenic would be emitted in a significant amount but multiple recent stack testing data showed arsenic emissions were non-detect for all three runs. We believe that the arsenic emissions and risk contribution were overestimated in the 2021 emission inventory and HRA. Therefore, the Facility will conduct arsenic testing to verify the actual emissions of arsenic for the LFG-fired flare and update the resulting emission factor for arsenic as appropriate. We will then revise the HRA accordingly using the updated emission factor(s). A source test sampling protocol will be submitted to the SDAPCD for approval prior to testing, as the time to prepare and submit the protocol, receive approval, provide notifications, complete the testing, and receive the report in time for evaluation prior to the RRAP due date was not feasible. The Facility will be contracting with Total Air Analysis, Inc. (Total Air) which has performed arsenic testing at other landfills with flares. Per Total Air's availability, a protocol for testing will be able to be submitted to the SDAPCD by January 31, 2025, and testing completed (assuming SDAPCD protocol approval) by March 31, 2025. Once testing has been completed and the final report has been submitted to the Landfill, which we would expect within 60 days of testing), the Landfill will incorporate site-specific emission factors and update the HRA. We expect to be able to submit a revised HRA by June 30, 2025, showing risk reduction.

Additional risk reduction actions that could hypothetically reduce post-combustion emissions would be installation of post-combustion add-on controls, such as catalysts and/or pre-combustion pretreatment of the LFG. However, these actions are not reliably proven as technologically feasible currently, have not been deployed at any landfills, and we do not believe these technologies would be economically viable.

3.3 RISK REDUCTION SCHEDULE

The Facility will conduct annual testing for the risk driver, arsenic. In the event that annual testing and resulting emission factors after the first year indicates that the arsenic emissions from the LFG

flare would result in Otay Landfill triggering any of the significant risk mitigation thresholds, OLI will evaluate their RRAP and adjust as necessary. In addition, if after two consecutive annual tests result in emissions above risk thresholds, OLI will evaluate potential gas treatment options for arsenic such as activated carbon and Puraspec absorbent for arsine, or a catalyst-based system. If necessary, OLI will implement gas treatment options within two years of the second consecutive test resulting in risk above the thresholds. In addition, please note that OLI is also considering an LFG-to-energy (LFGTE) project at Otay. This would result in the diversion of the LFG that is currently being combusted in the flares, which would potentially reduce future emissions and health risk.

3.4 RISK REDUCTION DEMONSTRATION

Actual emissions from the John Zink flare will be revised and updated with testing for the risk driver, arsenic, based on source testing. The significant risk mitigation levels for the Facility are the following:

- Maximum exposed individual resident cancer risk equal to or greater than 10 in one million

Since we believe that the arsenic emissions and subsequent risk are overstated, OLI plans to perform testing and then re-evaluate the health risk. As noted previously, risk reduction activities already implemented for unpaved haul roads that were not applied in the 2021 HRA would also show reduction in health risk for future HRAs.

Table 1 below shows the revised forecast for a future risk assessment within the 5-year timeframe for risk reductions requirements per Rule 1210.

Table 1. Proposed HRA Risk Reduction

Risk Type	2021 HRA	2025 HRA	Units
Cancer Maximum Residential	20.2	<10	Cancer Risk Per Million

3.5 PROGRESS REPORTS


Rule 1210(e) requires progress reports to be submitted at least annually under this RRAP. The Facility will provide progress reports as required on an annual basis incorporated into the toxic air contaminant emission inventory report. This report will detail actions taken by the Facility to reduce TAC emissions and the estimated public health risk reduction achieved through the submittal of annual testing.

4.0 APPLICATION FORM AND FEE

The General Permit or Registration Application Form can be found in **Appendix A**. The fee estimate provided by the SDAPCD as well as the payment receipt in the amount of \$7,528 can be found in **Appendix B**.

5.0 CONCLUSION

OLI has included all required information from Rule 1210(e) regarding the RRAP. The risk reduction activities detailed in this permit modification application serve to update the current permit and show that OLI is taking all necessary steps to reduce health risk at the landfill.



Appendix A
General Permit Application Form

Internal Use Only	
APP ID: APCD	-APP/CER-
SITE ID: APCD	-SITE-

**GENERAL PERMIT OR
REGISTRATION
APPLICATION FORM**



Submittal of this application does not grant permission to construct or to operate equipment except as specified in Rule 24(c).

REASON FOR SUBMITTAL OF APPLICATION:

- | | | |
|--|---|--|
| <input type="checkbox"/> New Installation | <input type="checkbox"/> Existing Unpermitted Equipment or Rule 11 Change | <input type="checkbox"/> Modification of Existing Permitted Equipment |
| <input type="checkbox"/> Amendment to Existing Authority to Construct or Application | <input type="checkbox"/> Change of Equipment Location | <input type="checkbox"/> Change of Equipment Ownership (please provide proof of ownership) |
| <input checked="" type="checkbox"/> Change of Permit Conditions | <input type="checkbox"/> Change Permit to Operate Status to Inactive | <input type="checkbox"/> Banking Emissions |
| <input type="checkbox"/> Registration of Portable Equipment | <input type="checkbox"/> Other (Specify) _____ | |

List affected APP/PTO Record ID(s): APCD2009-PTO-971112

APPLICANT INFORMATION

Name of Business (DBA) Otay Landfill, Inc.

Does this organization own or operate any other APCD permitted equipment at this or any other adjacent locations? Yes No

If yes, list assigned Site Record IDs listed on your Permits APCD1989-SITE-07494

Name of Legal Owner (if different from DBA) _____

Equipment Owner

Authority to Construct Mailing Address

Name: Otay Landfill Inc.	Name: Same as Equipment Owner
Mailing Address: 1700 Maxwell Road	Mailing Address:
City: Chula Vista State: CA Zip: 91911	City: State: Zip:
Phone: (619) 449-9026	Phone: ()
E-Mail Address: nmohr@republicservices.com	E-Mail Address:

Permit To Operate Mailing Address

Invoice Mailing Address

Name: Same as Equipment Owner	Name: Same as Equipment Owner
Mailing Address:	Mailing Address:
City: State: Zip:	City: State: Zip:
Phone: ()	Phone: ()
E-Mail Address:	E-Mail Address:

EQUIPMENT/PROCESS INFORMATION: Type of Equipment: Stationary Portable, *if portable please enter below the equipment storage address.* If portable, will operation exceed 12 consecutive months at the same location Yes No

Equipment Location Address Otay Landfill - 1700 Maxwell Road City Chula Vista State: CA

Parcel No. _____ Zip 91911 Phone (619) 332-9021 E-mail: mcervantes2@republicservices.com

Site Contact Marco Cervantes Phone (619) 332-9021

General Description of Equipment/Process Municipal Solid Waste Landfill

Application Submitted by Owner Operator Contractor Consultant Affiliation SCS Engineers

EXPEDITED APPLICATION PROCESSING: I hereby request Expedited Application Processing and understand that:

a) Expedited processing will incur additional fees and permits will not be issued until the additional fees are paid in full (see Rule 40(d)(8)(iv) for details) b) Expedited processing is contingent on the availability of qualified staff c) Once engineering review has begun this request cannot be cancelled d) Expedited processing does not guarantee action by any specific date nor does it guarantee permit approval.

This application contains trade secret or confidential information (see reverse for instructions)

I hereby certify that all information provided on this application is true and correct.

SIGNATURE Neil Mohr Date 09/17/2024


Print Name Neil Mohr Company Otay Landfill, Inc.

Phone (619) 449-9026 E-mail Address nmohr@republicservices.com

Internal Use Only

Date	Staff Initials:	Amt Rec'd \$	Fee Schedule
RNP:	EMF:	NBF:	TA:

GEN_APP_Form_Rev Date: Aug. 2017



Appendix B
Fee Estimate and Payment Receipt

**SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT
FEE ESTIMATE**

Applicant Site ID/EIF ID:	APCD1989-SITE-07494, EIF ID 7263	Fee Schedule:	RRP
Applicant DBA:	Otay Landfill	Reason for Submittal:	Other
	1700 Maxwell Road	Existing Site?	Yes
	Chula Vista, CA 91911	Estimate Date:	9/12/2024
APCD Engineer:	Jim Swaney		
Equipment Description:	Estimated fees to review Risk Reduction Plan related to APCD2022-HRA-0028 for their 2021 emissions, to add review and revise flare emission factors		

ACTIVITY	EMPLOYEE CLASSIFICATION	LABOR HOURS	COST	SUBTOTAL
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Initial Evaluation Fee - T&M (Rule 40(d)(3)(i))

Authority to Construct	Engineering Services	15.0	\$4,110.00		ETM
Permit to Operate	Engineering Services		\$0.00	\$4,110.00	ETM

T&M Application - No Fixed Fee, see above

Authority to Construct/Permit to Operate		N/A	T+M	\$0.00	ETM
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Additional Evaluation and Processing Fees (Rule 40(d)(5))

New Source Review	Engineering Services		\$0.00	\$0.00	NSR
	Monitoring Services		\$0.00	\$0.00	AQI
Prev. Significant Deterioration	Engineering Services		\$0.00	\$0.00	PSD
AB2588 Hot Spots (Rule 40(f)(6)) (Health Risk Assessment)	Engineering Services	12.0	\$3,288.00		ETM
	Monitoring Services		\$0.00		
	HRA Base Estimate	Standard		\$3,288.00	
Tile V	Engineering Services		\$0.00	\$0.00	TIV
NESHAPS/ATCM/NSPS	Engineering Services		\$0.00	\$0.00	HAP
CEQA	Engineering Services		\$0.00	\$0.00	CEQ
AB 3205 Notice	Engineering Services		\$0.00		AB3
	Public Notice Costs		\$0.00	\$0.00	
Equipment subject to Rule 11(a)(3)	Engineering Services		\$0.00	\$0.00	R51
H&SC 42301(e)	Engineering Services		\$0.00	\$0.00	HSC
Testing or Test Witness	Engineering Services		\$0.00		STF
	Source Testing Services		\$0.00		
Fixed Test Fee Sched.	NA	Fixed Testing Fees	\$0.00	\$0.00	ad-hoc

Miscellaneous Fees

Processing Fee (Rule 40(d)(1)(ii))		1.0	\$130	\$130.00	EFX
Renewal Fee (Rule 40(e)(2)(ii))		N/A	N/A	\$0.00	REN
Emissions Fee (Rule 40(e)(2)(iv))			N/A	\$0.00	EMF

NOTES:

ESTIMATE TOTAL: **\$7,528.00**

- To avoid possible processing delays, this document should be submitted with your application forms.
- The fees contained in this estimate are based on APCD Rule 40. Final fee may be more or less than this estimate (see Rule 40(d)(1)(iii) or Rule 40(f)(6)).
- Emissions determined to be greater than 5 tons per year will be charged a emission fee on a ton per year basis. (see Rule 40 (e)(2)(iv)(A))
- Fees paid by credit card will be assessed a 2.19% processing fee (see Rule 40(c)(5))
- Federal government payments made through DFAS: Please reference the above listed Site ID Record number in your DFAS submittal.
- This estimate is valid only for applications or Health Risk Assessments received by the District by June 30, 2024

SAN DIEGO COUNTY AIR P
10124 OLD GROVE ROAD
SAN DIEGO, CA 92131

09/17/2024 14:59:35
MID: XXXXXXXXXXXX005 TID: XXXXX301

CREDIT CARD

VISA SALE

Card #	XXXXXXXXXXXX3284
SEQ #:	5
Batch #:	79
INVOICE	5
Approval Code:	02401S
Entry Method:	Manual
Mode:	Online
Tax Amount:	\$0.00
Cust Code:	
Card Code:	M

SALE AMOUNT \$7692.86

I agree to pay above total amount
according to card issuer agreement.
(Merchant agreement if Credit Voucher)

X _____

MERCHANT COPY