San Joaquin Valley APCD
Air Toxic Hot Spots
Assessment Resources

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San Joaquin Valley APCD

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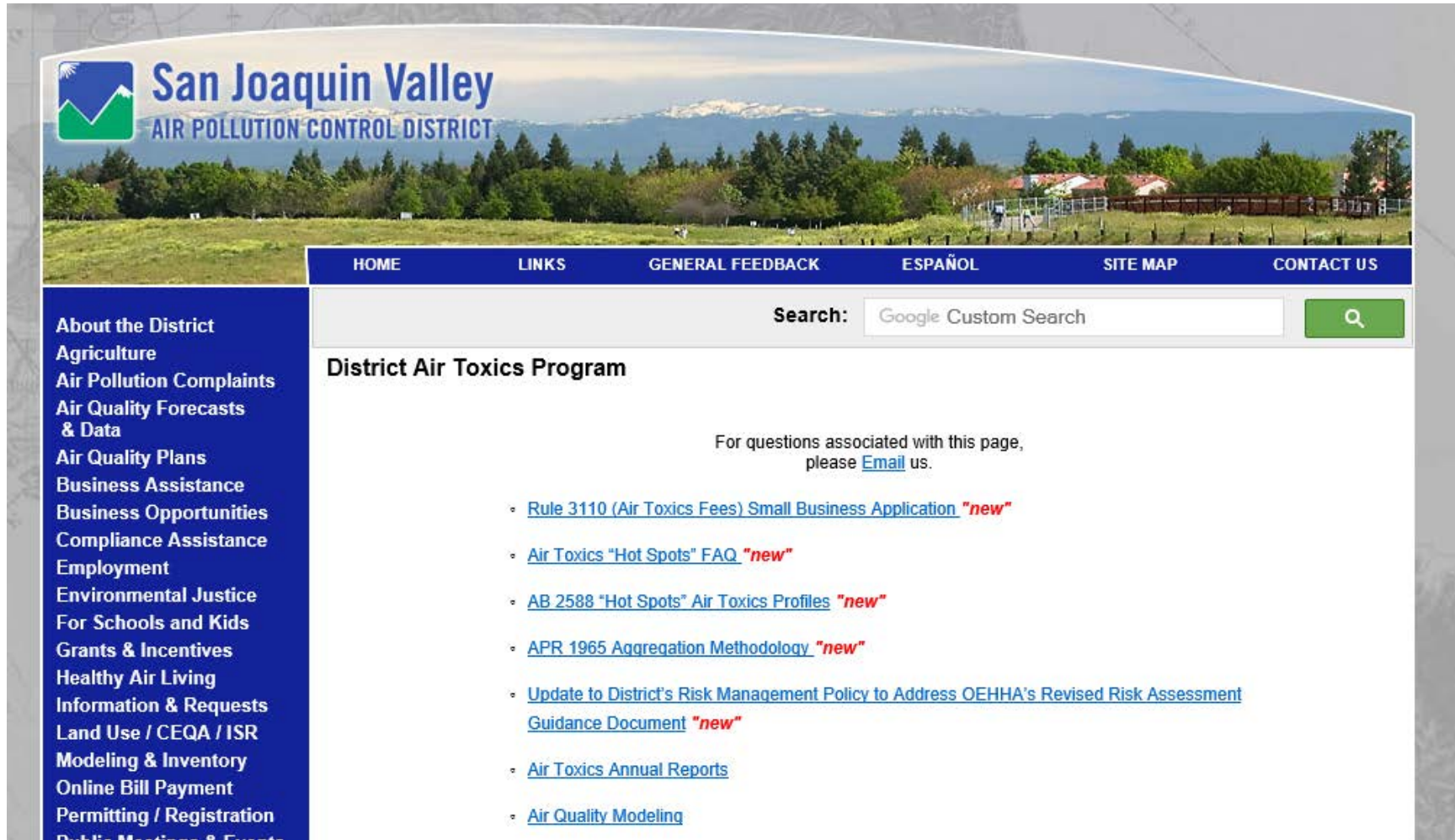*Live a Healthy Air Life!*

AB 2588 Reassessment

- District facility health risk reassessment plan based on the original legislation's multi-year prescription
- Preparing for this reassessment
  - Assessed required resources
  - Spent significant time in streamlining processes
  - Creating facility-specific tools, resources, on-line submittals, and web-based system
- Streamlining goals
  - Reduce implementation burden on industry
  - Reduce program implementation costs

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Available Tools

Tool	Upon Request	Online
Toxics Emissions Inventory Plan (TEIP) template	✓	✓
Toxics profiles	✓	✓
Sample toxic emission estimation methods	✓	✓
Reporting guidance / template	✓	
Prioritization spreadsheet		✓
Phase 3 applicability survey	✓	✓
SHARP-EI	✓	

http://www.valleyair.org/busind/pto/toxics.htm

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Modeling & Inventory: Air Toxics

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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District Air Toxics Program

For questions associated with this page,
please Email us.

- Rule 3110 (Air Toxics Fees) Small Business Application *"new"*

- Air Toxics "Hot Spots" FAQ *"new"*

- AB 2588 "Hot Spots" Air Toxics Profiles *"new"*

- APR 1965 Aggregation Methodology *"new"*

- Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document *"new"*

- Air Toxics Annual Reports

- Air Quality Modeling

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Toxic Emission Inventory Plan (TEIP) Templates

- Word document provided to facilities upon request
- Sector specific *ie.,* oil and gas production, feed and grain mills, electrical generators, etc.
- Prepopulated with permitting and inventory data
- Prompts for non-permitted sources subject to AB 2588
- Sample calculations and toxics profiles
- Sample flow diagram

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TEIP Template

[Facility Name]

Facility ID [Facility ID]

Toxic Emission Inventory Plan

for

AB 2588
California Air Toxics "Hot Spots"
Information and Assessment Act of 1987

[Date]

Submitted to:
San Joaquin Valley Unified Air Pollution Control District
1990 E Gettysburg Avenue
Fresno, California 93726

Prepared by:
[Facility Name]
[Facility Street]
[Facility City State Zip]

Table of Contents

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Toxic Emission Profiles

- Emission profiles approved by the District and integrated into our inventory database
- Can copy and paste into template plans

District Toxic Profile ID	159
Description	NG Internal Combustion 2SLB Engine No Controls
Source	The emission factors were based on AP 42, Fifth Edition, Volume I, Chapter 3: Stationary Internal Combustion Sources, Section 2: Natural Gas-Fired Reciprocating Engines, Table 3.2-1. Assumes 1,000 btu per scf natural gas. Use spreadsheet to determine VOC control or to use different HHV

Pollutant Name	Emission Factor	Emission Factor Units	CAS#
1,1,2,2-Tetrachloroethane	6.63E-02	lb/MMscf	79345
1,1,2-Trichloroethane	5.27E-02	lb/MMscf	79005
1,1-Dichloroethane	3.91E-02	lb/MMscf	75343
1,2,4-Trimethylbenzene	9.80E-03	lb/MMscf	95636
1,3-Butadiene	8.20E-01	lb/MMscf	106990
2,2,4-Trimethylpentane	8.46E-01	lb/MMscf	540841

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Source Type Sample Calculations

- Sample calculations are available for different source types
- Format follows our template plan's

5.8 EXAMPLE: Uncollected Landfill Gas, VOC Fugitives

[Change the heading title to appropriately describe the source.]

5.8.1 Applicability

[List the toxic device ID(s) this emission source applies to. Refer to Table 1 for the device numbers.]

This section applies to toxic device(s) X and XX.

5.8.2 Process Description

[Provide a process description of the above emission source per unit or source group, as applicable.]

Example: The facility operates a municipal solid waste landfill with a X.X million cubic meter capacity served by a landfill gas collection system. Landfill gas, produced as organic material within the landfill decomposes, is controlled by a gas collection system; however, some uncollected fugitive landfill gas is expected. Listed substances are constituents of the landfill gas.

5.8.3 Listed Substances

[List all toxic profiles or toxic substances associated with this emission source. The facility should identify and quantify any toxic emissions that may be contained in the VOC emissions released from the devices listed above.]

Example: Listed substances are components of fugitive VOCs emitted from XXXX. Listed substances expected to be emitted are from the following District toxic emissions profiles or a facility gas analysis profile:

- Profile #265 for Z2 EI Landfill Fugitive Co-Disposal 1998 AP42
- Profile #266 for Z2 EI Landfill Fugitive 1998 AP42
- Profile #267 for Z2 EI Landfill Fugitive Co-Disposal WIAC
- Profile #268 for Z2 EI Landfill Fugitive WIAC

Further information is provided in Appendix C.

5.8.4 Calculation Method

[Provide proposed calculation method(s) for quantifying ACTUAL emissions.]

Example:

US EPA Method. The District recommends using the method developed under the federal mandatory greenhouse gas reporting regulation for calculating landfill gas collection efficiency. This is summarized in 40 CFR 98, Subpart HH, Table HH-3.

Table HH-3 to Subpart HH of Part 98—Landfill Gas Collection Efficiencies

Description	Landfill Gas Collection Efficiency
A1: Area with no waste in-place	Not applicable; do not use this area in the calculation.
A2: Area without active gas collection, regardless of cover type	CE2: 0%.
A3: Area with daily soil cover and active gas collection	CE3: 60%.
A4: Area with an intermediate soil cover, or a final soil cover not meeting the criteria for A5 below, and active gas collection	CE4: 75%.
A5: Area with a final soil cover of 3 feet or thicker of clay or final cover (as approved by the relevant agency) and/or geomembrane cover system and active gas collection	CE5: 95%.
Weighted average collection efficiency for landfills:	
Area weighted average collection efficiency for landfills	CEave1 = (A2*CE2 + A3*CE3 + A4*CE4 + A5*CE5) / (A2 + A3 + A4 + A5)

Uncollected landfill gas can then be back-calculated as follows:

Uncollected LFG = (Collected LFG/CEave1) – Collected LFG

Alternative Integrated Surface Methane Method. Huitric and Kong (2006)[1] developed an "integrated surface methane" (ISM) for calculating LFG collection efficiencies. In this method concentration was measured

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Phase 3 Applicability Survey

- EIC&GR Appendix E: Requirements for classes of facilities emitting less than 10 tons per year of criteria pollutants

- Will send to non-industrywide, non-ag facilities

- Used to identify facilities that may be subject to plans and reports

- Under development and will used in 2018

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SHARP-EI

Function	State Tools	District Tools
• Manage facility emission inventory data • Prioritization	HARP 2 Emission Inventory Module (EIM)	SHARP-EI
• Perform atmospheric dispersion analyses using the AERMOD	HARP 2 Air Dispersion Modeling & Risk Tool (ADMRT)	Lakes AERMOD
• Calculate health impacts using 2015 OEHHA health risk assessment guidance	HARP 2 Air Dispersion Modeling & Risk Tool (ADMRT)	SHARP-RMR

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SHARP-EI

- MS Access
- Emission inventory
- Prioritization
  - Facility/device/process
  - Stationary source
  - Receptor location or distance
- Import/export district fields

- Productivity tools
  - SCC filters & search
  - Conversion utilities
  - Integrated toxics profiles
  - Emission factor back-calculator
  - Geodata import/export and conversion
  - Quick update

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