


San Joaquin Valley
Air Pollution Control District

APR - 1906

Framework for Performing Health Risk Assessments

Approved By:


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I. PURPOSE

The purpose of this guidance is to provide a framework for performing health risk assessments within the jurisdiction of the San Joaquin Valley Air Pollution Control District ("District"). This policy does not cover specific or technical modelling issues that are discussed in other policies, guidance, or documents provided by the District.

II. APPLICABILITY

This policy applies to the District's Risk Management Review (RMR - APR 1905), California Environmental Quality Act (CEQA), and the California Air Toxic "Hot Spots" Act (AB 2588) programs.

III. HEALTH RISK ASSESSMENT (HRA) THRESHOLDS

The District will not approve any project that results in a health risk score above any of the following thresholds:

Permitting RMR

- HRA cancer risk ≤ 20 in a million, and
- Non-Cancer Risk of < 1.0

CEQA

- HRA cancer risk ≤ 20 in a million, and
- Non-Cancer Risk of < 1.0

AB 2588

- **Prioritization:**

- Low Priority:
 - Prioritization ≤ 1
 - Facility Exempt from further AB 2588 requirements
- Intermediate Priority:
 - $1 < \text{Prioritization} \leq 10$
 - Facility required to provide update Summary on a quadrennial basis
- High Priority:
 - Prioritization > 10
 - Facility required to perform a Health Risk Assessment

- **Health Risk Assessment (HRA) - If Necessary:**

- Low Risk:
 - HRA cancer risk ≤ 1 in a million, **and**
 - HRA total hazard index of < 0.1
 - Facility Exempt from further AB 2588 requirements
- Intermediate Risk:
 - $1 \leq \text{HRA cancer risk} < 10$ in a million, **or**
 - $0.1 \geq \text{HRA total hazard index} \leq 1.0$
 - Facility required to provide update summary on a quadrennial basis
- High Risk:
 - HRA cancer risk ≥ 10 in a million, **or**
 - HRA total hazard index of > 1.0
 - Public Notice
- Risk Reduction:
 - HRA cancer risk ≥ 100 in a million cancer, **or**
 - HRA total hazard index of > 5.0
 - Public Notice and Risk Reduction Audit Plan

IV. IMPLEMENTATION DATE

In March of 2015, the Office of Environmental Health Hazard Assessment (OEHHA) approved the "The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments" guidance document. Since July 1, 2015, the District is requiring all health risk assessments being prepared for compliance with the District's RMR, CEQA, and AB2588 programs to use the District's policies and guidance in conjunction with OEHHA's 2015 guidance document. Any proposed exceptions from this implementation date must be approved by the District.

V. IMPLEMENTATION PROCEDURE

In order to implement the 2015 OEHHA guidance based on project specific information, the District has developed a three tier process:

- The 1st tier is a Screening Estimate which uses the most conservative modeling and exposure parameters resulting in the highest calculated risk for children. No additional data is required from the applicant
- The 2nd tier is a refinement of Project Specific Modeling Inputs
- The 3rd tier is a refinement of Project Specific Exposure Parameters

A. TIER 1 - Screening Estimate

TIER 1 is used when specific information about a project and its location relative to actual or foreseen receptors are not known. The risk assessment should utilize the HARP2 or equivalent program.

B. TIER 2 - Refined Project Specific Modeling Inputs

TIER 2 is used when specific modeling input information about the project is known. This includes AERMOD model inputs (e.g., UTM's or Lat/Long coordinates of the emission source(s) and receptor(s) under evaluation) that would refine accuracy of the modeled concentration.

Other refined AERMOD options employed in the model that are non-standard (e.g., low wind speed) and not specifically allowed by District policy must be justified and approved by the District.

C. TIER 3 - Refined Project Specific Exposure Parameters

TIER 3 is used when specific exposure parameters information about the project and effected receptors are known. This includes information about limits to the life of a project, receptor time away from home, or other project specific receptor exposure parameters. Refinements to the District default exposure parameters require project specific justification and should be provided to the District or lead agency for review as part of the modeling documentation.

Please Note: A health risk assessment may begin at any tier level depending on the information available. District policy does not allow the use of spatial averaging, breathing rates of less than 95% for all receptors, or reductions in exposure times other than those discussed here. More information on each tier is provided in the table below.

HRA Implementation Comparison	
OEHHA/CARB HARP 2003 Guidance	OEHHA/CARB HARP2 2015 Guidance
Screening Estimate	TIER 1 Screening Estimate
<ul style="list-style-type: none"> • Derived OEHHA • 70-year Lifetime Exposure Period • Exposure Pathways (Inhalation, Soil, Dermal, Mother Milk, Home Grown Garden) • Deposition of 0.02 	<ul style="list-style-type: none"> • Derived OEHHA • 70-year Lifetime Exposure Period • Exposure Pathways (Inhalation, Soil, Dermal, Mother Milk, Crops) • Deposition of 0.02
Refined	TIER 2 Refined Project Specific Modeling Inputs
In addition to options above: <ul style="list-style-type: none"> • Refined AERMOD Inputs • Exposure time (1 & 5 Project life) • Worker Adjustment • No Home Grown Garden – if appropriate 	In addition to options above: <ul style="list-style-type: none"> • Refined AERMOD Inputs
	TIER 3 Refined Project Specific Exposure Parameters
	In addition to options above: <ul style="list-style-type: none"> • Exposure time (Actual Years) • Worker Adjustment • No Home Grown Garden – if appropriate • Time Away from Home (TAH)