

# ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

## AIR TOXICS “HOT SPOTS” PROGRAM RISK REDUCTION AUDIT AND PLAN PROCEDURES

### INTRODUCTION

The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (“Hot Spots” Act; Health and Safety Code (H&S Code) §§ 44300-44384) was adopted by the California Legislature and signed by the Governor in response to public concern about the release of toxic chemicals to the ambient air. Prior to enactment of the “Hot Spots” Act, little information was available to assess the types, quantities, and health impacts of toxic chemicals routinely released to the ambient air in California. The “Hot Spots” Act addresses only routine or predictable releases and not releases due to unforeseen or catastrophic events.

Under the “Hot Spots” Act, facility owners are required to produce and submit to the Antelope Valley Air Quality Management District (District) a comprehensive inventory of routine releases of toxic chemicals to the ambient air. Based on the content of these inventories, some facilities are required to prepare and submit Health Risk Assessments (HRA) which estimate the impact of routine air toxics releases. If an HRA indicates a "significant health risk", the facility will be required to notify the affected public of this risk. The “Hot Spots” Act does not specifically define "significant health risk" for public notification purposes. The responsibility for defining "significant health risk" has been delegated to the local districts.

The “Hot Spots” Act is a “public right to know law”. In its original enactment it did not require emission reductions nor risk reductions. However, locally and statewide, voluntary release reductions have been implemented as a result of the program. Separate legislation (Toxic Air Contaminants Act of 1992- H&S Code §§ 44390-44394, SB 1731, Calderon), requires emission reductions from facilities posing a "significant risk". The Toxic Air Contaminants Act did not specifically define "significant risk" for risk reduction purposes. The responsibility for defining "significant risk" has been delegated to the local districts.

### HEALTH RISK ASSESSMENT

The term “Health Risk Assessment” as used in the “Hot Spots” Act, refers to an estimate of the probability that an adverse public health effect could occur. The facility's release, release point (stacks, vents, stockpiles, open areas, etc.) characteristics, local meteorological (weather) conditions, chemical dose-response data, etc., are input into a computer program to produce an estimate of the health risk to the population in close proximity to the facility. The HRAs generated under the “Hot Spots” Act do not involve studies of actual illness in the local population.

## RISK REDUCTION AUDIT AND PLAN REQUIREMENTS

The intent of the Toxics Air Contaminants Act is for facilities whose health risk excess or equals the "significant risk" level to reduce their risk below the "significant risk". A Risk Reduction Audit and Plan is required pursuant to California Health and Safety Code (H&S Code) § 44391(a), which states:

"Whenever a health risk assessment approved pursuant to Chapter 4 (commencing with Section 44360) indicates, in the judgment of the district, that there is a significant risk associated with the emissions from a facility, the facility operator shall conduct an airborne toxic risk reduction audit and develop a plan to implement airborne toxic risk reduction measures that will result in the reduction of emissions from the facility to a level below the significant risk level within five years of the date the plan is submitted to the district. The facility operator shall implement measures set forth in the plan in accordance with this chapter."

The required five year period to may be reduced to less than five years, pursuant to H&S Code § 44391(b), which states:

"The period to implement the plan required by subdivision (a) may be shortened by the district if it finds that it is technically feasible and economically practicable to implement the plan to reduce emissions below the significant risk level more quickly or if it finds that the emissions from the facility pose an unreasonable health risk."

The five year period may be extended up to an additional five years, pursuant to H&S Code § 44391(c), which states:

"A district may lengthen the period to implement the plan required by subdivision (a) by up to additional five years if it finds that a period longer than five years will not result in an unreasonable risk to public health and that requiring implementation of the plan within five years places an unreasonable economic burden on the facility operator or is not technically feasible."

## SIGNIFICANT RISK

The level of risk considered a "significant risk" for the purposes of the risk reduction audit and plan is not defined in the Health & Safety Code, but is instead left to the discretion of each local air district. The "significant risk" values are the Maximum Individual Cancer Risk (MICR), the Hazard Index (HI) and the Total Hazard Index (THI) as determined in the HRA. For the District, the "significant risk" levels, for the purpose of risk reduction audit and plan, are defined as follows:

| <u>Parameter</u>              | <u>Threshold</u> |
|-------------------------------|------------------|
| Lifetime MICR*                | 100 in a million |
| Non-cancer risk (HI or THI)** | 10.0***          |

\* MICR = Maximum Individual Cancer Risk contributed by the facility.

\*\* HI = Hazard Index

THI = Total Hazard Index

\*\*\* The District will consult with OEHHA # on a case-by-case basis for an interpretation of HI and THI for specific substance(s) in question, to determine if a risk reduction audit and plan is appropriate for non-cancer health effects greater than ten.

# OEHHA = Office of Environmental Health Hazard Assessment

For risk reduction audit and plan procedures the MICR, HI and THI must occur at an occupied site, such as a residence {Maximum Exposed Individual - Resident (MEI-R)} or work site {Maximum Exposed Individual - Worker (MEI-W)}.

### UNREASONABLE RISK

The level of risk considered an "unreasonable risk" for the purposes of the risk reduction audit and plan is not defined in the Health & Safety Code, but is instead left to the discretion of each local air district. The "unreasonable risk" values are the Maximum Individual Cancer Risk (MICR), the Hazard Index (HI) and the Total Hazard Index (THI), as determined in the HRA. For the District, the "unreasonable risk" levels for the purpose of the risk reduction audit and plan are defined as follows:

| <u>Parameter</u>              | <u>Threshold</u> |
|-------------------------------|------------------|
| Lifetime MICR*                | 250 in a million |
| Non-cancer risk (HI or THI)** | 25.0***          |

\* MICR = Maximum Individual Cancer Risk contributed by the facility.

\*\* HI = Hazard Index

THI = Total Hazard Index

\*\*\* The District will consult with OEHHA on a case-by-case basis for an interpretation of HI and THI for specific substance(s) in question, to determine if a risk reduction audit and plan is appropriate for non-cancer health effects greater than twenty-five.

For risk reduction audit and plan procedures the MICR, HI and THI must occur at an occupied site, such as a residence {Maximum Exposed Individual - Resident (MEI-R)} or work site {Maximum Exposed Individual - Worker (MEI-W)}.

**RISK REDUCTION AUDIT AND PLAN PROCEDURES**

The primary purpose of this document is to specify procedures that should be used for risk reduction audits and plans. The steps and schedule for a risk reduction audit and plan procedures are as follows:

| STEP     | MONTHS | ACTIVITY  |
|----------|--------|---|
| <u>1</u> | 0      | Within 30 days of the completion of the Public Notification Procedures, the District will notify a facility in writing that the estimated risks in a OEHHA/District approved HRA exceeds the District's "significant risk" and/or "unreasonable risk" threshold(s) for carcinogenic and/or non-carcinogenic (chronic or acute) health effects. {H&S Code § 44391(a)}                            |
| <u>2</u> | 6      | The facility owner/operator must submit a risk reduction audit and plan to the District. {H&S Code § 44391(a)}  |
| <u>3</u> | 9      | The District will inform the facility whether or not the audit and plan are acceptable. {H&S Code § 44391(g)}   |
| <u>4</u> | 12     | The facility owner/operator submits a revised audit and plan addressing the deficiencies identified by the District. {H&S Code § 44391(g)}  |
| <u>5</u> | ANN *  | The facility owner/operator shall submit an annual toxic and criteria emission inventory in accordance with the District's "Air Toxic "Hot Spots" Program- General Procedures". {H&S Code § 44391(h)}   |
| <u>6</u> | ANN *  | The facility owner/operator shall submit a revised health risk assessment (HRA) annually using the most current emission inventory in accordance with the District's " Air Toxic "Hot Spots" Program - Health Risk Plan and Assessment Procedures". {H&S Code §§ 44391(h) & (i)}  |
| <u>7</u> | 66     | The facility must have implemented the risk reduction plan and reduce the health risk below both the "unreasonable risk" and "significant risk" levels. The District may allow a facility an additional five (5) years to reduce their health risk below the "significant risk" level if the facility can prove it will incur an unreasonable economic burden and/or that it is not technically |

feasible to get below the "significant risk" level in the first 5 years.  
{H&S Code §§ 44391(a) & (c)}

- 8**      126      The facility must have implemented the risk reduction plan and reduced the health risk below the "significant risk" level. {H&S Code §§ 44391(a) & (c)}

\* ANN = Annually

### AUDITS AND PLANS

The risk reduction audits and plans must, at a minimum, contain the following information, pursuant to the requirements of H&SC § 44392 and District requirements, which are as follows:

- A. The name, State ID number, and location of the facility. The State ID number is derived from the District permit system and is a combination of the (4) four digit Company Number and five (5) digit Facility Number.
- B. The SIC code for the facility.
- C. The chemical name and the generic classification of the chemical. Also, please state if the chemical is on the Federal (Title III) list of Hazardous Air Pollutants (HAPs).
- D. An evaluation of the Airborne Toxic Risk Reduction Measures (ATRRMs) available to the owner/operator. ATRRM include, but are not limited to, feedstock modifications, product reformulations, production system modifications, system enclosure, emission capture and control, conversion, operational standards and practices modification, Toxic Best Available Control Technology (T-BACT) and/or federal Maximum Available Control Technology (MACT). ATRRM do not include measures that will increase risk from exposure to the chemical in another media, or that increase the risk to workers or consumers. {H&SC §§ 44390(a) & (b)}
- E. The specifications rationale, and projected HRA from the ATRRM that will be implemented by the owner/operator. The risk reduction audit and plan shall document the rationale for rejecting ATRRM that are identified by the facility as unfeasible, too costly, capable of increasing exposure, and/or increase health risk to any media. The HRA shall be prepared in accordance with the District's "Air Toxic "Hot Spots" Program - Health Risk Plan and Assessment Procedures".
- F. A schedule of increments of progress for implementing the ATRRM. See District Rule 102 for a schedule of increments of progress. The proposed schedule must contain justification for proposed time frame. If the schedule is for five years, the facility must justify why the District should not reduce the implementation period. If the time schedule is for more than five years, the facility must justify why the District

should approve a longer implementation period.

- G. The risk reduction audit and plan shall be reviewed and certified as meeting this procedure, by one of the following:
1. a registered professional engineer, {B&P Code § 6762}
  2. an individual responsible for the processes and operation of the site, or
  3. a registered environmental assessor. {H&S Code § 25570.3}

### PROGRESS REPORTS

The owner/operator shall submit progress reports as follows:

- A. Within ten (10) days of completing each increment of progress.
- B. As soon as it becomes apparent that an increment of progress will not be completed on time, but no later than 10 days after the due date. The report must contain a revised schedule of increments of progress for District approval. Justification for the revised schedule of increments of progress must be included.
- C. The annual emission inventory shall contain a summary of progress made during the reporting year and the effect on toxic emissions.

### SATISFACTION OF RISK REDUCTION AUDIT AND PLAN PROCEDURES

The requirements of this procedure will be satisfied when the following two conditions are met;

- A. A revised HRA shows that the risk level is below “significant risk”.
- B. The OEHHA has approved the revised HRA.

**NOTE :**

Per District Counsel request, this procedure will be reformatted to conform with District's Standard Practices format. This format is currently being developed.