ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

RULE 1402 -- CONTROL OF TOXIC AIR CONTAMINANTS FROM EXISTING SOURCES

(Adopted: 04/08/94)

(a) Purpose

The purpose of this rule is to reduce the health risk associated with emissions of toxic air contaminants from existing sources by specifying limits for maximum individual cancer risk (MICR) and noncancer acute and chronic hazard index (HI) applicable to total facility emissions and requiring facilities to implement risk reduction plans to achieve these risk limits as required by the Hot Spots Act.

(b) Summary

The rule requires the operator of any facility which poses a health risk exceeding significant risk levels of a MICR of one hundred in one million (1.0×10^{-4}) or a total acute or chronic HI of five (5.0) to submit and implement a risk reduction plan which will reduce below the significant risk levels as quickly as feasible but by no later than five (5) years from the initial plan submittal date.

(c) Applicability

This rule shall apply to any facility for which the impact of total facility emissions exceeds any significant risk level as indicated in one of the following:

(1) A health risk assessment required pursuant to the Hot Spots Act and approved by the District;

(2) A health risk assessment prepared by the District for the purpose of this rule for a facility or category of facilities, including but not limited to facilities for which the District has prepared an industrywide emission inventory pursuant to the Hot Spots Act; or

(3) A health risk assessment required ursuant to subdivision (e) of this rule and approved by the District.

Except for facilities subject to the rule pursuant to paragraph (c)(2), this rule shall not apply to facilities which have not been notified by the District to prepare a health risk assessment pursuant to this rule or the Hot Spots Act.

(d) Definitions

(1) ACCEPTABLE STACK HEIGHT for a permit unit is defined as a stack height that does not exceed two and one half times the height of the permit unit or two and one half times the height of the building housing the permit unit, and shall not be greater than 65 meters (213 feet), unless the operator demonstrates to the satisfaction of the Executive Officer that a greater height is necessary.

(2) FACILITY means any permit unit or grouping of permit units or other air contaminant-emitting activities which are located /n one or more contiguous properties within the District, in actual physical contact or separately solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or persons under common control). Such above-described groupings, if remotely located and connected only by land carrying a pipeline, shall not be considered one facility.

(3) HOT SPOTS ACT means the Air Toxics "Hot Spots" Information and Assessment Act of 1987, incorporated at Part 6, Division 26 of the Health and Safety Code, and amendments to this act.

(4) INDIVIDUAL SUBSTANCE ACUTE HAZARD INDEX (HI) is the ratio of the estimated maximum one-hour concentration of a toxic air contaminant at a receptor location to its acute reference exposure level.

(5) INDIVIDUAL SUBSTANCE CHRONIC HAZARD INDEX (HI) is the ratio of the long-term level of exposure to a toxic air contaminant for a potential maximally exposed individual to the chronic reference exposure level for the toxic air contaminant.

(6) INITIAL PLAN SUBMITTAL DATE is the date that the initial risk reduction plan is submitted to the District, but no later than six months following notification by the Executive Officer that a risk reduction plan is required.

(7) MAXIMUM INDIVIDUAL CANCER RISK (MICR) is the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to toxic air contaminants.

(8) OPERATOR means the person who owns or operates a facility or part of a facility.

(9) RECEPTOR LOCATION means:

(A) for the purpose of calculating acute HI, any location outside the boundaries of the facility at which a person could experience acute exposure; and

(B) for the purpose of calculating chronic HI or MICR, any location outside the boundaries of the facility at which a person could experience chronic exposure.

The Executive Officer shall consider the possibility of potential exposure at a location in determining whether the location will be considered a receptor location.

(10) RISK REDUCTION MEASURE is a control measure which will reduce or eliminate the health risk associated with emissions of toxic air contaminants, is real, permanent, quantifiable, and enforceable through District permit conditions if applicable, and meets the requirements of the Hot Spots Act. Risk reduction measures may include, but are not limited to feedstock modification; product reformulations; production system modifications; system enclosure, emissions control, capture or conversion; operational standards or practices modifications; emissions collection and exhaust; source control; or alternative technologies.

(11) SIGNIFICANT RISK LEVEL for purpose of this rule is a MICR of one hundred in one million (1.0×10^{-4}) or a total acute or chronic HI greater than five (5.0) for any target organ system at any receptor location, as calculated for the toxic air contaminants listed in Tables I, II and III.

(12) TOTAL ACUTE HAZARD INDEX (HI) is the sum of the individual substance acute HIs for all toxic air contaminants identified in the risk assessment guidelines as affecting the same target organ system.

(13) TOTAL CHRONIC HAZARD INDEX (HI) is the sum of the individual substance chronic HIs for all toxic air contaminants identified in the risk assessment guidelines as affecting the same target organ system.

(14) TOXIC AIR CONTAMINANT is an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. For the purpose of this rule, toxic air contaminants are those listed in Tables I, II and III.

(e) Risk Assessment Requirements

Within 150 days of the date of notification by the Executive Officer, an operator shall submit to the District a health risk assessment for total facility emissions. The Executive Officer may require a health risk assessment from a facility when in possession of information indicating that emission levels from the facility could potentially cause exceedance of the significant risk levels.

(f) Risk Reduction Requirements

The following requirements shall apply to the operator of any facility whose emissions cause an exceedance of any significant risk level as indicated in a health risk assessment approved or prepared by the District:

(1) Risk Level Attainment Requirements

The operator shall implement the risk reduction measures specified in a risk reduction plan approved by the Executive Officer to reduce the impact of total facility emissions below the significant risk levels as quickly as feasible but by no later than five (5) years from the initial plan submittal date. Each risk reduction measure in an approved plan shall be implemented by the dates specified in the plan for that risk reduction measure.

(2) Submittal of Risk Reduction Plans

(A) The Executive Officer shall publish procedures for preparing risk reduction plans under this rule. The procedures shall include self-conducted audits and checklists which may be used by certain categories of facilities in lieu of preparing a risk reduction plan.

(B) Within 180 days of the date of notification by the Executive Officer, the operator shall submit to the Executive Officer for approval a risk reduction plan which includes at a minimum all of the following:

(i) The name, address, SCAQMD identification number and SIC code of the facility;
(ii) A facility risk characterization which includes an updated air toxics emission inventory and health risk assessment, if the risk due to total facility emissions has increased above the level indicated in the previously approved health risk assessment;
(iii) Identification of each source from which risk must be reduced in order to achieve the significant risk levels;
(iv) For each source identified in clause (f)(2)(B)(iii), an evaluation of the risk reduction measures available to the operator, including emission and risk reduction potential and time necessary for implementation;
(v) Specification of the risk reduction measures that shall be implemented by the operator to comply with the risk level attainment requirements of paragraph (f)(1);

(vi) A schedule for implementing the specified risk reduction measures as quickly as feasible. The schedule shall include the submittal of all necessary applications for permits to construct or modify within 180 days of approval of the plan, or in accordance with another schedule subject to approval of the Executive Officer, and specify the dates for other increments of progress associated with implementation of the risk reduction measures;

(vii) An estimation of the residual health risk after implementation of the specified risk reduction measures;

(viii) Proof of certification of the risk reduction plan as meeting all requirements by an engineer who is registered as a professional engineer pursuant to Business and Professions Code Section 6762, by an individual who is officially responsible for the processes and operations of the facility, or by a registered environmental assessor.

(3) Approval of Risk Reduction Plans

(A) The Executive Officer shall approve or reject the plan within three (3) months of submittal based on the operator's ability to demonstrate timely compliance with the risk level attainment requirements of paragraph (f)(1). The operator may appeal the rejection of a plan or the failure of the Executive Officer to act on a plan submittal to the Hearing Board under Rule 216. Plans shall be revised and resubmitted within 90 days of the date of receipt of a rejection notice. The revised plan shall correct all deficiencies identified by the Executive Officer. The approved plan shall be subject to Rule 221.

(B) If the risk reduction plan contains a facility risk characterization demonstrating to the satisfaction of the Executive Officer that the facility does not exceed the significant risk levels, the plan may be approved without the inclusion of the plan components specified in subparagraphs (f)(2)(B)(iii) through (vii).

(4) Progress Reports

The operator shall submit to the Executive Officer for approval, by no later than the date(s) that updates of emission inventories are required for the facility pursuant to the Hot Spots Act and no less frequently than every two (2) years, progress report(s) on the emissions and risk reduction achieved by the plan which include at a minimum all of the following:

(A) The increments of progress achieved in implementing the risk reduction measures specified in the plan;

(B) A schedule indicating dates for future increments of progress;

(C) Identification of any increments of progress that have been or will be achieved later than specified in the plan and the reason for achieving the increments late;

(D) A description of any increases or decreases in emissions of toxic air contaminants that have occurred at the facility, including a description of any associated permits that were subject to Rule 1401, since approval of the plan.

(5) Updating of Risk Reduction Plans

If information becomes known to the Executive Officer after the initial plan submittal date on air toxics risks posed by the facility or emission reduction technologies that may be used by the facility that would substantially impact risks to exposed persons or implementation of the risk reduction plan, the Executive Officer may require the plan to be updated and resubmitted.

(6) Plan Modification for Change of Risk Reduction Measures

Prior to a change in the risk reduction measures specified in the currently approved plan, the operator shall submit to the Executive Officer for approval an application for plan modification. The application shall include a demonstration that the change of risk reduction measures will not result in compliance with the significant risk levels later than provided in paragraph (f)(1).

(g) Risk Assessment Procedures

(1) The Executive Officer shall periodically publish or designate procedures for determining health risks under this rule. To the extent possible, the procedures shall be consistent with the policies and procedures of the Office of Environmental Health Hazard Assessment (OEHHA). Such procedures shall specify:

(A) Acute and chronic reference exposure levels and upper bound estimates of carcinogenic potency that shall be used in evaluating risks;

(B) Compounds that must be subject to a multiple pathway risk assessment. A compound is subject to multiple pathway analysis if the Executive Officer determines that it may reasonably be expected to cause health risk through ingestion exposure, if it is expected to deposit and persist in the environment after emission, and if a quantitative oral cancer potency estimate or reference exposure level has been derived for the compound;

(C) Health protective assumptions that shall be used in evaluating exposure to compounds from inhalation and other routes of exposure. This will include an assumption of a 70 year period of operation for the sources of toxic air contaminants;

(D) Risk for the potential maximally exposed individual shall be based upon continuous exposure for 70 years in residential areas and health protective estimates of exposure duration in nonresidential areas;

(E) Estimates of pollutant dispersion and risk from a source shall not be based upon stack height in excess of acceptable stack height.

(2) Within 120 days of publication of the risk assessment guidelines required to be published by the OEHHA pursuant to the Air Toxics "Hot Spots" Information and Assessment Act of 1987, the Executive Officer shall report to the District Governing Board if there are any material differences between the OEHHA guidelines and the criteria specified in paragraph (g)(1) and recommend for Board approval whether to proceed with amendments to this rule in order to make the rule consistent with the OEHHA guidelines before their designation as the risk assessment guidelines under this rule.

(3) The Executive Officer shall publish procedures for determining the emissions estimates to be used in risk assessments in cases in which a compound has not been detected in analyses which have been conducted according to District-approved methods, including procedures for excluding such compounds from risk assessments. The procedures shall provide methods for estimating the most likely emission levels of non-detected compounds based on consideration of the likelihood of presence and the method detection limits of compounds.

(h) Alternate Hazard Index Levels

An alternate hazard index level may be used as the significant risk level for a particular total acute or chronic HI if the Office of Environmental Health Hazard Assessment determines that such alternate hazard index level is protective against adverse health effects. The alternate HI level shall not in any case exceed 10. The facility operator shall attain the alternate HI level as quickly as feasible but by no later than five (5) years from the initial plan submittal date.

(i) Compliance with this rule does not authorize the emission of a toxic air contaminant in violation of any federal, state, local or District law or regulation or exempt the operator from any law or regulation.

(j) Risk reduction measures implemented in order to comply with other regulatory requirements are acceptable risk reduction measures for the purposes of this rule, provided they are consistent with the requirements of this rule.

[SIP: Not SIP]

TABLE I
TOXIC AIR CONTAMINANTS
TO BE EVALUATED FOR CANCER RISK

Substance	CAS Number[a]
Acetaldehyde	75-07-0
Acrylamide	79-06-01
Acrylonitrile	107-13-1
Arsenic and compounds (inorganic)	7440-38-2
Asbestos	1332-21-4
Benzene	71-43-2
Benzidine (and its salts)	92-87-5
Beryllium	7440-41-7
Bis(2-chloroethyl)ether	111-44-4
Bis(chloromethyl)ether	542-88-1
1,3-But!diene	106-99-0
Cadmium and compounds	7440-43-9
Carbon tetrachloride	56-23-5
Chlorinated dioxins and dibenzofurans (TCDD equivalents)[b]	---
Chloroform	67-66-3
Chloroprene	126-99-8
Chromium (hexavalent)	7440-47-3
Coke oven emissions	---
1,2-Dibromo-3-chloropropane	96-12-8
p-Dichlorobenzene	106-46-7
3,3'-Dichlorobenzidene	91-94-1
Di(2-ethylhexyl)phthalate	117-81-7
2,4-Dinitrotoluene	121-14-2
1,4-Dioxane	123-91-1
Diphenylhydrazine	122-66-7
Epichlorohydrin	106-89-8
Ethylene dibromide	106-93-4
Ethylene dichloride	107-06-2
Ethylene oxide	75-21-8
Formaldehyde	50-00-0
Hexachlorobenzene	118-74-1
Hexachlorocyclohexanes	---
Hydrazine	302-01-2

TABLE I (Cont.)

Substance	CAS Number[a]
Methylene chloride	75-09-2
Nickel and compounds	---
N-Nitroso compounds:	
Dimethylnitrosamine	62-75-9
Diethylnitrosamine	55-18-5
Dibutylnitrosamine	924-16-3
N-Nitrosodi-n-propylamine	621-64-7
N-Nitrosomethylethylamine	10595-95-6
N-Nitrosopyrrolidine	930-55-2
N-Nitrosodiphenylamine	86-30-6
N-Nitroso-N-ethylurea	759-73-9
N-Nitroso-N-methylurea	684-93-5
Pentachlorophenol	87-86-5
Perchloroethylene	127-18-4
Polychlorinated biphenyls	1336-36-3
Polynuclear aromatic hydrocarbons (PAH)	
Benz(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(b)fluoranthene	205-99-2
Benzo(k)fluoranthene	207-08-9
Chrysene	218-01-9
Dibenz(a,h)anthracene	53-70-3
Indeno(1,2,3-cd)pyrene	193-39-5
Propylene oxide	75-56-9
Trichloroethylene	79-01-6
2,4,6-Trichlorophenol	88-06-2
Urethane (Ethyl carbamate)	51-79-6
Vinyl chloride	75-01-4

[a]Chemical Abstracts Service Number

[b]Chlorinated dioxins and furans comprise a number of homologue groups (tetra, penta, etc.) and each homologue group includes a number of isomers. TCDD equivalents shall be calculated according to the method recommended by the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment.

TABLE II
TOXIC AIR CONTAMINANTS
TO BE EVALUATED FOR CHRONIC HAZARD INDEX

Substance	CAS Number[a]
Acetaldehyde	75-07-0
Acrolein	107-02-8
Acrylamide	79-06-01
Acrylonitrile	107-13-1
Ammonia	7664-41-7
Arsenic	7440-38-2
Benzene	71-43-2
Benzidine (and its salts)	92-87-5
Benzyl chloride	100-44-7
Beryllium	7440-41-7
Bromine	7726-95-6
Bromine pentafluoride	7789-30-2
Cadmium	7440-43-9
Carbon tetrachloride	56-23-5
Chlorinated dioxins and dibenzofurans (TCDD equivalent)[b]	---
Chlorine	7782-50-5
Chlorobenzene	108-90-7
Chlorinated fluorocarbon (CFC-113)	76-13-1
Chloroform	67-66-3
2-Chlorophenol	95-57-8
Chloropicrin	76-06-2
Chloroprene	126-99-8
Chromium (hexavalent)	7440-47-3
Copper and compounds	---
Cresol (o, m and p isomers)	---
1,2-Dibromo-3-chloropropane	96-12-8
p-Dichlorobenzene	106-46-7
Di(2-ethylhexyl)phthalate	117-81-7
Dimethylamine	124-40-3
1,4-Dioxane	123-91-1
Epichlorohydrin	106-89-8

TABLE II (Cont.)

Substance	CAS Number[a]
Ethyl acrylate	140-88-5
Ethyl chloride	75-00-3
Ethylene dibromide	106-93-4
Ethylene dichloride	107-06-2
Ethylene glycol butyl ether	111-76-2
Ethylene glycol ethyl ether	110-80-5
Ethylene glycol ethyl ether acetate	111-15-9
Ethylene glycol methyl ether	109-86-4
Ethylene glycol methyl ether acetate	110-49-6
Ethylene oxide	75-21-8
Formaldehyde	50-00-0
Glutaraldehyde	111-30-8
Hexachlorobenzene	118-74-1
Hexachlorocyclohexane, gamma isomer	58-89-9
Hexachlorocyclopentadiene	77-47-4
Hydrazine	302-01-2
Hydrochloric acid	7647-01-0
Hydrogen bromide	10035-10-6
Hydrogen cyanide	74-90-8
Hydrogen fluoride	7664-39-3
Hydrogen sulfide	7783-06-4
Lead and compounds	---
Maleic anhydride	108-31-6
Manganese and compounds	---
Mercury and compounds (inorganic)	---
Methanol	67-56-1
Methyl bromide	74-83-9
Methyl chloroform (1,1,1-TCA)	71-55-6
Methyl isocyanate	624-83-9
Methyl mercury	593-74-8
Methyl methacrylate	80-62-6
Methylene chloride	75-09-2
4,4'-Methylene dianiline (and its dichloride)	101-77-9
Mineral fibers (<1% free silica)	---
Naphthalene	91-20-3

TABLE II (Cont.)

Substance	CAS Number[a]
Nickel and compounds	---
Nitrobenzene	98-95-3
2-Nitropropane	79-46-9
Pentachlorophenol	87-86-5
Perchloroethylene	127-18-4
Phenol	108-95-2
Phosphine	7803-51-2
Phosphorus (white)	7723-14-0
Phthalic anhydride	85-44-9
Polychlorinated biphenyls	1336-36-3
Propylene oxide	75-56-9
Selenium and compounds	---
Sodium hydroxide	1310-73-2
Styrene	100-42-5
Tetrachlorophenols	---
Toluene	108-88-3
Toluene-2,4-diisocyanate	584-84-9
Toluene-2,6-diisocyanate	91-08-7
Trichloroethylene	79-01-6
Vinyl chloride	75-01-4
Vinylidene chloride	75-35-4
Xylene (o, m and p isomers)	---
Zinc and compounds	---

[a]Chemical Abstracts Service Number

[b]Chlorinated dioxins and furans comprise a number of homologue groups (tetra, penta, etc.) and each homologue group includes a number of isomers. TCDD equivalents shall be calculated according to the method recommended by the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment.

TABLE III
TOXIC AIR CONTAMINANTS
TO BE EVALUATED FOR ACUTE HAZARD INDEX

Substance	CAS Number[a]
Acrolein	107-02-8
Ammonia	7664-41-7
Arsine	7784-42-1
Benzyl chloride	100-44-7
Carbon tetrachloride	56-23-5
Chlorine	7782-50-5
Copper and compounds	---
1,4-Dioxane	123-91-1
Ethylene glycol butyl ether	111-76-2
Ethylene glycol ethyl ether	110-80-5
Ethylene glycol ethyl ether acetate	111-15-9
Ethylene glycol methyl ether	109-86-4
Formaldehyde	50-00-0
Hydrochloric acid	7647-01-0
Hydrogen cyanide	74-90-8
Hydrogen fluoride	7664-39-3
Hydrogen sulfide	7783-06-4
Maleic anhydride	108-31-6
Mercury (inorganic)	---
Methyl chloroform (1,1,1-TCA)	71-55-6
Methylene chloride	75-09-2
Nickel and compounds	---
Perchloroethylene	127-18-4
Phosgene	75-44-5
Propylene oxide	75-56-9
Selenium and compounds	---
Sodium hydroxide	1310-73-2
Xylene (o, m and p isomers)	---

[a]Chemical Abstracts Service Number