



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## **WORKSHOP REPORT**

# **PROPOSED AMENDMENTS TO: AIR DISTRICT REGULATION 2, RULE 5: NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS**

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Bay Area Air Quality Management District

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## EXECUTIVE SUMMARY

For more than twenty-eight years, the Air District has implemented programs that are designed to identify and reduce the public's exposure to toxic air contaminants (TACs). TACs are air pollutants, which may cause or contribute to an increase in mortality or in serious illness, or which may pose a potential hazard to human health. The Air District's long-standing Air Toxics Program is directed at reducing TAC emissions from stationary sources. The Air Toxics Program has three main elements that integrate federal and state mandates and local goals: 1) the preconstruction review of new and modified sources of TAC emissions (the Air Toxics New Source Review program), 2) the assessment and reduction of health risks from existing facilities (the Air Toxics "Hot Spots" program), and 3) the implementation of air pollution control measures for specific categories of TAC sources. Over the past twenty-eight years, the Air District's Air Toxics Program, in conjunction with other Air District and state programs, has reduced overall cancer risk from TAC exposure in the Bay Area by about 83%.

This report addresses proposed changes to the Air District's Air Toxics New Source Review (NSR) Program, including amendments to Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants and associated procedures. The Air Toxics NSR Program is a health risk-based program, where program requirements are based on results of health risk assessments (HRA). HRA is an analysis that estimates the increased likelihood of health risk for individuals in the affected population that may be exposed to emissions of one or more toxic substances.

The goals of the Air Toxics NSR Program are to:

- (1) Evaluate and mitigate potential increases in public health risks resulting from new and modified sources emitting TACs; and
- (2) Provide net health risk benefits by improving the level of control when existing sources are modified or replaced.

The Air District implements the Air Toxic NSR Program through Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants during preconstruction permit review of projects involving new or modified TAC emission sources. Regulation 2, Rule 5 requires an assessment of the health impacts from these projects if the TAC emissions exceed Air District specified de minimis risk screen trigger levels. Regulation 2, Rule 5 also sets health risk thresholds that trigger mandatory use of best available control technology for toxics (TBACT) and establishes health risk limits (permit denial levels) for these projects.

In accordance with Regulation 2, Rule 5, project health impacts are determined through preparation of a health risk assessment (HRA), which is completed following the Air District's HRA Guidelines. The Air District's HRA guidelines generally conform to the health risk assessment methodology that was developed by Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA) specifically for air pollution control programs in California and to the risk management guidance for stationary sources adopted by the California Air Resources Board (CARB) and the California Air Pollution Control Officers Association (CAPCOA). The OEHHA Health Risk Assessment

Guidelines contain several sections which identify (a) overall methodology, (b) exposure assessment assumptions and procedures, and (c) health effects data such as cancer potency factors and reference exposure levels. The CARB/CAPCOA risk management guidelines provide additional recommendations regarding specific types of projects.

The Air District's current HRA Guidelines generally follow the 2003 OEHHA Guidelines, except that the Air District's HRA Guidelines use OEHHA health effects values adopted as of January 1, 2010 and the Air District's cancer risk calculation procedures include the age sensitivity factors (ASFs) discussed in OEHHA's June 1, 2009 Technical Support Document for Cancer Potency Factors. These ASFs are one part of the 2015 revisions to OEHHA's HRA Guidelines. In addition, the Air District's current HRA Guidelines incorporate CARB's 2003 Interim Risk Management Policy for inhalation-based residential cancer risk assessments.

OEHHA periodically updates health effects values and health risk assessment procedures to reflect advances in science. Most recently, as mandated under the Children's Environmental Health Protection Act of 1999 or SB25, OEHHA developed major revisions to these health risk assessment guidelines that considered protection of children's health. Advances in science have shown that early-life exposures to air toxics contribute to an increased life time risk of developing cancer compared to exposures that occur in adulthood. OEHHA's 2015 risk assessment methodology reflects both this greater sensitivity and more refined data in childhood and adult exposure to air toxics. In addition, OEHHA has adopted a number of updates to health effects values since the Air District's HRA Guidelines were last revised.

In response to these OEHHA updates, CARB and CAPCOA adopted an updated Risk Management Guidance Document for Stationary Sources of Air Toxics on July 23, 2015. This document provides risk management guidance for sources subject to stationary source permitting and Air Toxic Hot Spots programs including an updated Risk Management Policy for Inhalation Risk Assessments that replaces the 2003 Interim Risk Management Policy.

The primary purpose of this Toxics NSR rule amendment is to incorporate OEHHA's 2015 Health Risk Assessment Guidelines and CARB/CAPCOA's 2015 Risk Management Guidelines into the Air District's Toxics NSR rule. This rule amendment will also include new and revised health effects values that have been adopted by OEHHA since January 2010, as well as revised risk assessment trigger levels. The Air District is proposing to move risk assessment trigger levels from the rule to the Air District's permit handbook. This will allow for timely incorporation of future revisions to OEHHA's HRA Guidelines and health effects values. The Air District is proposing a few additional amendments to this rule to remove unnecessary language and clarify requirements. The Air District is not proposing any changes to the current TBACT thresholds or project risk limits.

The overall effect of the Air District's proposed rule revisions is that cancer risk will increase for many projects even though emissions remain the same. This is because estimating cancer risk using the new and better scientific information contained in the revised OEHHA and CARB/CAPCOA guidelines will result in higher risk numbers for many toxic air contaminants. For most toxic air contaminants, the cancer risk will increase by about 40% for the same emissions level compared to the cancer risk calculated using the Air District's current HRA Guidelines. For a dozen TACs, the cancer risk could increase by up to a factor of five. The net result of these proposed revisions is that projects will trigger HRA and TBACT requirements and will reach project risk limits at lower emission rates. More projects will be required to control TAC emissions and to reduce project health impacts than would otherwise be required to do so under the current rule.

## I. INTRODUCTION

This report was prepared to provide information relevant to the Air District's proposed amendments of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.

The Air District seeks additional input in the development of these proposed rule revisions from the public and other interested stakeholders, and will hold public workshops and additional meetings for this purpose. At these meetings, the Air District will discuss the draft rule revisions and the related OEHHA HRA Guideline revisions.

## II. BACKGROUND INFORMATION

Over the last several decades, public concern about air pollution has expanded from what is typically called "smog" and other criteria air pollutants to include toxic air contaminants (TACs). A pollutant is considered toxic if it has the potential to cause adverse health effects such as cancer, birth defects, respiratory ailments, or other serious illness. For more than twenty-eight years, the Air District has implemented programs that are designed to identify and reduce the public's exposure to TACs. As shown in Figure 1, Air District and state toxic programs have reduced the average Bay Area cancer risk from TACs by about 83% over the last two decades.

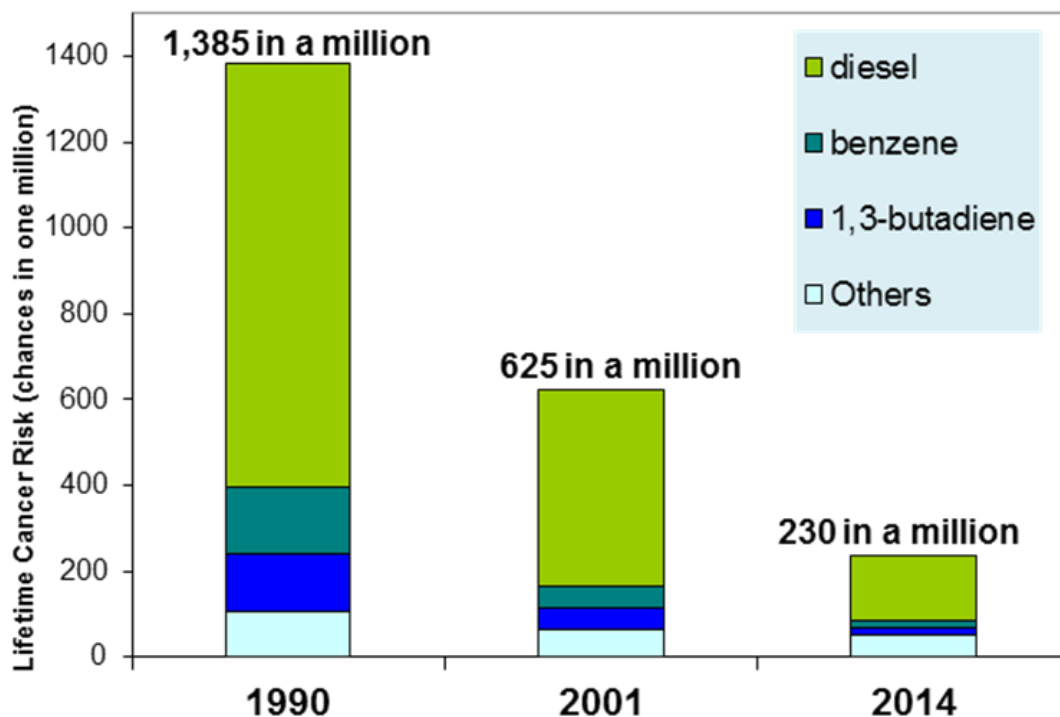


Figure 1. Bay Area Lifetime Residential Cancer Risk\* from TAC Exposure

\* Cancer risk is based on average ambient air monitoring data and the risk assessment methodology presented in the OEHHA's 2003 HRA Guideline.

The Air District's long-standing Air Toxics Program is directed at reducing TAC emissions from stationary sources. Based on the Air District's TAC emissions inventories, TAC emissions from Bay Area stationary sources have decreased by at least 69% since 1990 (see Figure 2).

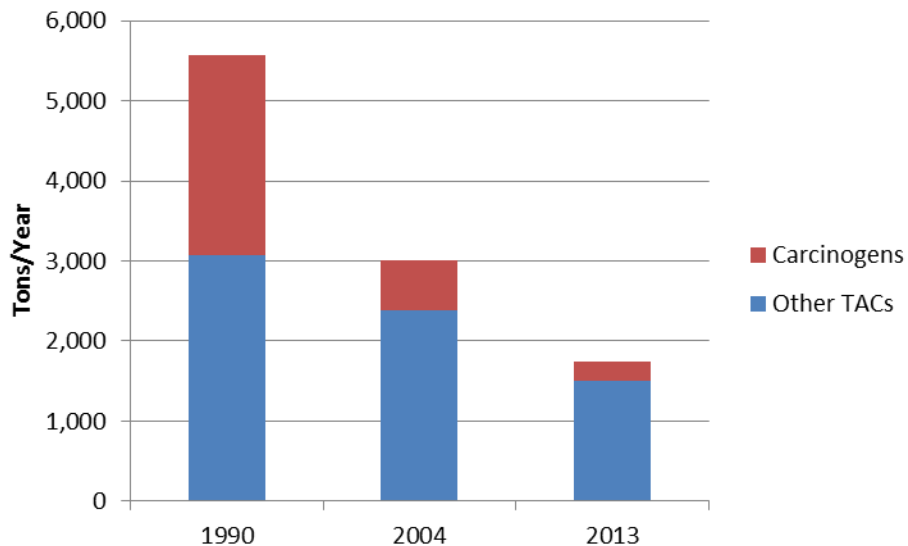


Figure 2. TAC Emissions from Bay Area Stationary Sources

\* The emission rates for several common TACs (diesel engine exhaust particulate matter, ethyl benzene, and isopropyl alcohol) were not available for the 1990 emission inventory.

The Air District's Air Toxics Program is successfully continuing this downward trend in stationary source emissions. As shown in Figure 3, carcinogenic emissions from Bay Area stationary sources have decreased by about 63% since 2004 with emission reductions observed for all major cancer risk drivers.

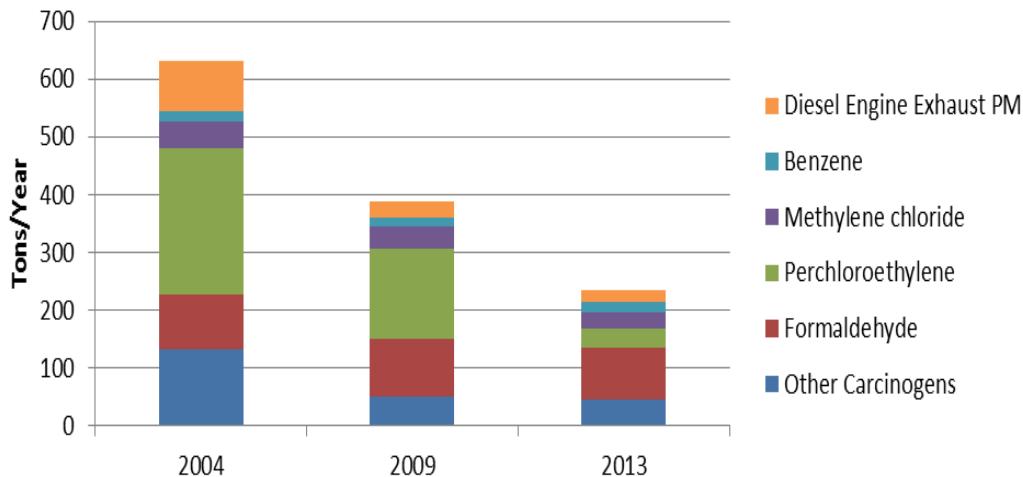


Figure 3. Carcinogenic Emissions from Bay Area Stationary Sources



The Air District's Air Toxics Program has three main elements that integrate federal and state mandates and local goals:

- 1) the preconstruction review of new and modified sources of TAC emissions (the Air Toxics New Source Review program),
- 2) the assessment and reduction of health risks from existing facilities (the Air Toxics "Hot Spots" program), and
- 3) the implementation of air pollution control measures for specific categories of TAC sources.

The Air Toxics New Source Review (NSR) Program and the Air Toxics Hot Spots Program are health risk based programs. These programs have action and decision thresholds that are based on estimated health risks for the exposed population. To ensure parity with other Air Districts and conformity with state mandates, the Air District follows state-wide guidance regarding health risk assessment methodologies to evaluate public exposures to toxic air contaminants and to calculate and manage the resulting health risks. Although these programs focus on different types sources (new and modified sources for the Air Toxics NSR Program and existing sources for the Air Toxics Hot Spots Program), both programs rely on the same state-wide health risk assessment guidance: Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA) Health Risk Assessment Guidelines.

OEHHA periodically updates these Health Risk Assessment (HRA) Guidelines to reflect advances in science. OEHHA recently adopted a major update to the HRA Guidelines that focused on children's health protection: OEHHA's 2015 HRA Guideline Revisions. The Air District is planning to update the Air Toxic NSR and Air Toxic Hot Spots Programs by incorporating OEHHA's 2015 HRA Guideline Revisions into the Air District's health risk assessment procedures for these programs.

This report discusses changes to the Air Toxics NSR Program and amendments to the rule that implements this program: Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants. The primary goal of this rule amendment is to incorporate OEHHA's 2015 HRA Guideline Revisions into this rule.

The revisions to the Air Toxic Hot Spots Program will be discussed at a later date in a separate rule making effort.

### III. AIR TOXICS NEW SOURCE REVIEW (NSR) PROGRAM

The Air Toxics NSR Program was established in 1987 at the direction of the Air District's Board of Directors and was initially implemented based on policies and procedures established by the Air District's Air Pollution Control Officer (APCO). In 2005, the Air District updated the Air Toxics NSR Program and codified the Air Toxics NSR policies and procedures in Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants, in the Manual of Procedures, Volume II, Part 4: New and Modified Sources of Toxic Air Contaminants, and in the BAAQMD Health Risk Screening Analysis (HRSA) Guidelines. In the last 2010 rule amendment, the Air District updated Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants to include new and revised health values as well as age-sensitivity factors.<sup>1</sup>

The goal of the Air Toxics NSR Program is to evaluate and mitigate potential increases in public health risks resulting from new and modified sources of TACs based on preconstruction permit review. The program is also intended to reduce existing health risks by requiring updated control requirements when older, more highly polluting, sources are modified or replaced. Regulation 2, Rule 5 contains health risk based thresholds at which a new or modified source must employ Best Available Control Technology for Toxics (TBACT) and health risk limits that each project cannot exceed. The rule also delineates the procedures to be used for calculating TAC emission increases from sources and projects and for evaluating the health impacts that result from these emission increases.

When evaluating health impacts from new and modified sources, the Air District follows the BAAQMD Health Risk Assessment (HRA) Guidelines, which generally conform to State Air Toxics Hot Spots Health Risk Assessment (HRA) guidelines. The California Office of Environmental Health Hazard Assessment (OEHHA) periodically revises the State HRA guidelines and has made a number of changes since the BAAQMD HRA Guidelines were updated in 2010.

The Air Toxics NSR program relies on two primary program components:

- (1) risk assessment, which involves estimating risk for a project using a prescribed methodology, and
- (2) risk management, which involves taking action on the project based on risk action levels.

The stringency of the program is affected by both the methodology and the action levels. Stringency can be increased either by changes in methodology that result in a higher calculated risk or by reductions in the risk action levels.

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<sup>1</sup> Age sensitivity factors are cancer risk adjustment factors that account for children's heightened sensitivity to air toxics. OEHHA first identified age sensitivity factors in a June 2009 Technical Support Document for the OEHHA HRA Guidelines. These age sensitivity factors are one of measures OEHHA included in the 2015 HRA Guideline Revisions.

#### **IV. PROPOSED CHANGES TO AIR TOXICS NSR PROGRAM**

The Air District is proposing to increase the stringency of the Air Toxics NSR Program by incorporating updated HRA procedures that will result in higher calculated risks for the same level of emissions. The Air District is not proposing any changes to the risk action levels for the Air Toxics NSR Program.

The Air District is proposing to make the following specific revisions to the Air Toxics NSR Program:

- Implement OEHHA's Revised Health Risk Assessment Guidelines (2015)
- Implement CARB/CAPCOA Risk Management Guidance for Stationary Sources of Air Toxics (2015)
- Relocate the Air District's table of toxic air contaminant emission rate trigger levels for health risk assessment requirements from Regulation 2, Rule 5 to the Air District's Permit Handbook, and update regulatory references to this table
- Update the Air District's acute and chronic emission rate trigger levels for toxic air contaminants
- Clarify terminology and procedures in Regulation 2, Rule 5

The primary goal of these revisions is to ensure that the Air District's Air Toxics NSR Program conforms to the most recent state-wide risk assessment and risk management guidance. In 2015, OEHHA and CARB adopted major changes to the risk assessment and risk management guidance documents. The Air District's HRA Guidelines need to be revised to include these 2015 guidance document revisions.

In addition, the Air District's toxic air contaminant (TAC) trigger levels need to be revised to include the 2015 updates to the health risk calculation procedures and the 2010-2015 updates to TAC health effects values. Moving the Air District's TAC trigger level table to the Air District's Permit Handbook will enable the Air District to make more timely updates to these trigger levels in response to future OEHHA updates of health effects values or risk assessment methods.

Finally, the Air District is proposing revisions to Regulation 2, Rule 5 with the intention of making rule language consistent with state guidance documents, streamlining procedures and clarifying text.

##### **A. Proposed HRA Guideline Revisions**

As mandated under the Children's Environmental Protection Act of 1999 or SB25, OEHHA has been evaluating a number of revisions to health risk assessment procedures to include consideration of children's health protection. In the last decade, advances in science have shown that early-life exposures to air toxics contribute to an

increased lifetime risk of developing cancer, or other adverse health effects, compared to exposures that occur in adulthood.

On March 6, 2015, OEHHA adopted a revised Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments to replace the 2003 Air Toxic Hot Spots Guidance Manual. OEHHA's 2015 HRA Guidelines reflect both children's greater sensitivity to toxic air contaminants and more refined data related to childhood and adult exposure to air toxics. OEHHA's 2015 HRA Guidelines affect how risk assessments are conducted.

On July 23, 2015, California Air Resources Board (CARB) adopted the CARB/CAPCOA Risk Management Guidance for Stationary Sources of Air Toxics. This document provides guidance on managing potential cancer and non-cancer health risks from sources subject to Air Toxics New Source Review Permitting and Air Toxics Hot Spots Programs. This document includes additional recommendations that affect how risk is calculated for certain types of risk assessments.

The Air District is proposing to incorporate both of these guidance documents into the Air District's Toxic NSR Program. OEHHA's 2015 HRA Guidelines include five key revisions to health risk assessment procedures, which are as follows:

- Age Sensitivity Factors;
- Age-Specific exposure variables;
- Fraction of Time at Home;
- Exposure Duration; and
- Spatial Averaging of Exposure Concentrations

These five key HRA revisions and the Air District's proposals for incorporating these procedures into the Air District's HRA Guidelines are discussed below.

#### Age Sensitivity Factors (ASFs)

OEHHA's 2015 HRA Guidelines include adjustment factors that account for children's heightened sensitivity to air toxics. These adjustment factors are referred to as age-sensitivity factors (ASFs), which are age-specific weighting factors used to reflect children's special sensitivity to carcinogens. The ASFs include a 10-fold multiplier in sensitivity for infants less than age two, a three-fold increase in sensitivity for children ages two to sixteen years old, and a sensitivity factor of one for ages sixteen and older.

The Air District incorporated ASFs into the Air District's most recent amendment of the BAAQMD Air Toxics NSR Program Health Risk Screening Analysis Guidelines and has been using ASFs in toxic NSR health risk assessments since January 2010. The Air District is proposing to continue using ASFs in cancer risk calculation procedures, as described in OEHHA's 2015 HRA Guidelines. Since the Air District is already using ASFs in toxic NSR health risk assessments, Bay Area projects will not be affected by this revision to the OEHHA cancer risk calculation procedures.

## Age-Specific Exposure Variables

People can be exposed to toxic air contaminants (TACs) in a variety of ways (e.g. by breathing in TACs present in the ambient air, by skin exposure to TACs in ambient air, by ingestion of food or water on which TACs have been deposited, etc.)<sup>2</sup> For each of these possible exposure pathways, a risk assessor needs general population data (such as breathing rates, skin uptake rates, food ingestion rates, etc.) in order to calculate potential health risks. In the 2003 HRA Guidelines, OEHHA recommended exposure variables for three exposure durations and population sets: 9 year exposure duration for students, 30 year exposure duration for workers, and 70 year exposure duration for residents.

For the 2015 HRA Guidelines, OEHHA developed exposure variables for six age groups including the last trimester to birth, birth to < age 2, age 2 < 9, age 2 to < 16, age 16 to < 30, and age 16 to 70 years. These age groups allow for more refined exposure information to be used when estimating exposure and potential health impacts over time.

For cancer risk calculations, OEHHA recommends using the 95<sup>th</sup> percentile of the daily breathing rates for each of the above age groups when conducting a Tier I point risk estimate of residential cancer risk. However, OEHHA gives the risk assessor flexibility to use more appropriate site-specific data or a stochastic approach as a more refined risk estimate.

When considering appropriate breathing rate assumptions for risk management decisions, CARB recommends using the 95<sup>th</sup> percentile breathing rate for the most sensitive age groups (less than 2 years old) and using the 80<sup>th</sup> percentile breathing rates for other age groups (2 years old and up), when calculating the exposure rates for the inhalation pathway.<sup>3</sup> This is referred to as the 95/80 daily breathing rate (DBR) policy. This policy continues the 2003 policy of using at least the 80<sup>th</sup> percentile DBR for residential locations.

The 95/80 DBR policy is modeled after the OEHHA derived approach for assessing risks for pollutants with multiple exposure pathways. For multi-pathway analyses, OEHHA recommends using high-end exposure parameters for all pathways to determine which pathways are driving the risk. The risk estimate is then refined by using high-end exposure parameters for the two pathways that contribute most to risk and by using average exposure parameters for the remaining pathways. The 95/80 DBR policy is more conservative than the derived approach, because it uses the higher 80<sup>th</sup> percentile DBR for the non-driving age rate groups instead of an average DBR.

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<sup>2</sup> While it is possible for people to be exposed to TACs through a number of different exposure pathways, most TACs only cause adverse health effects when people are exposed via the inhalation pathway. There are only 20-30 “multi-pathway” TACs that have health effects values for non-inhalation pathways in addition to the inhalation pathway. Most of these multi-pathway TACs are metals or heavy long chain hydrocarbons.

<sup>3</sup> CARB/CAPCOA Risk Management Guidance for Stationary Sources of Air Toxics, Appendix D

The Air District has evaluated both the OEHHA Tier I DBR recommendation (95<sup>th</sup> percentile for all inhalation age groups) and the CARB 95/80 DBR policy. The CARB 95/80 DBR policy is more consistent with the Air District's current approach (using 80<sup>th</sup> percentile DBR for residential inhalation exposures, if inhalation is the only cancer risk pathway). The CARB 95/80 DBR is more conservative than the Air District's current approach but less conservative than the OEHHA Tier 1 DBR approach. Based on CARB and CAPCOA analyses of these approaches, the Air District considers the CARB 95/80 DBR policy to be the best practice in the implementation of age specific exposure variables. Therefore, the Air District is proposing to use the CARB 95/80 DBR policy for residential exposure calculations, if inhalation is the only cancer risk pathway.

The incorporation of exposure variables for six age groups and the use of the CARB 95/80 DBR policy for inhalation pathways are expected to result in higher cancer risks for the same level of emissions compared to the Air District's current HRA Guidelines and procedures.

Fraction of Time at Home (FAH)

Under the 2003 Risk Assessment Guidance, residential receptors are assumed to be at their home 24 hours a day, or 100% of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100% of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to < 16 years, and 0.73 for ages 16 to 70 years. For facilities or projects that have a school nearby, OEHHA recommends that a screening approach first be used to determine the potential health risk near the school. If the school is located in an area where the residential cancer risk is greater than 1 in a million, the risk calculations should use an FAH factor of 1 for the child age groups (3<sup>rd</sup> Trimester, 0<2 years of age, and 2<16 years of age).

The Air District is planning to incorporate these FAH recommendations into the Air District's HRA calculation procedures. The initial residential cancer risk calculations should use a default FAH of one (1.00) for all child age groups, as shown in the following table. If this initial analysis finds that schools are only located within areas where the residential cancer risk is less than one in a million, the residential cancer risk calculations may be refined by including appropriate FAH factors for each age group.

Table A.1 Air District Fraction of Time at Home (FAH) Assumptions

Age Group	Default FAH	Refined FAH *
3 <sup>rd</sup> Trimester to < 2 years	1.00	0.85
2 to < 16 years	1.00	0.72
16 to 70 years	0.73	0.73

\* These refined FAH assumptions shall only be used if an initial analysis has demonstrated that there are no schools located within areas where the residential cancer risk is one in a million or higher.

The use of FAH factors results in a small reduction in cancer risk for the same level of emissions compared to the Air District's current calculation methodology.

### Exposure Duration

Currently, the Air District uses a 70-year lifetime exposure duration for residences and a 40-year exposure duration for workers, in accordance with OEHHA's 2003 Risk Assessment Guidance. Based on updated demographic data, OEHHA is now recommending a 30-year exposure duration for residents and a 25-year exposure duration for workers. The residency data is in-line with EPA approved assumptions for residents, and the worker assumption more accurately represents the current length of employment time. These shorter exposure duration assumptions for residents and workers result in a small reduction in cancer risk compared to the Air District's current risk calculation procedures.

For short-term projects, such as construction or remediation projects, the Air District's current health risk calculation procedure uses a minimum project duration of 9 years for the cancer risk assessment based on 2003 OEHHA guidelines. In the 2015 guidelines, OEHHA recommends:

- no cancer risk assessment for projects lasting less than 2 months,
- use of a 6-month duration for cancer risk assessments involving projects lasting between 2 and 6 months, and
- use of actual project duration for cancer risk assessments on projects lasting longer than 6 months.

However, OEHHA also recommends that the risk manager consider a lower cancer risk threshold for very short term projects, because a higher exposure over a short period of time may pose a greater risk than the same total exposure spread over a much longer period of time.

To ensure that reducing project duration does not result in unanticipated higher cancer impacts due to short-duration high exposure rates, the District is proposing to require a minimum 3-year exposure duration assumption for cancer risk assessments on projects lasting 3 years or less. In other words, for projects lasting three years or less, the District will assume that the average daily project emissions continue for a minimum of a 3-year period. This 3-year exposure duration assumption ensures that residents will not be exposed to any greater concentrations of TACs than the TAC concentrations allowed by the Air District's current HRA procedures.

### Spatial Averaging of Concentrations

OEHHA's revised guidance provides an option for spatially averaging dispersion modeling results for determining a project's potential health risk. Spatial averaging is a technique used to estimate the overall impact on a given receptor by averaging the modeled concentrations over a discrete area, instead of using a single point to determine potential cancer and chronic noncancer health impacts. The area over which

concentrations may be averaged is 400 square meters (20 meter by 20 meter area at 5 meter intervals).

The Air District is proposing to add spatial averaging as a potential HRA refinement option. The impacts of spatial averaging depend on the type of release point and distance to receptors. While for some projects, spatial averaging can result in a small reduction in health impacts, the Air District believes that spatial averaging is more reflective of actual TAC exposure.

### Overall Impacts of HRA Guideline Changes

The vast majority of Air District NSR risk assessments involve toxic air contaminants that have a single exposure pathway (the inhalation pathway). Examples of common inhalation only TACs are: diesel engine exhaust particulate matter, benzene, formaldehyde, and perchloroethylene. As reported in the CARB/CAPCOA Risk Management Guidance for Stationary Sources of Air Toxics, inhalation cancer risks calculated using the 2015 risk assessment procedures are expected to be 1.5 to 3 times higher than inhalation cancer risks calculated using OEHHA's 2003 Risk Assessment Guidelines for the same emission rate and cancer potency value. Age sensitivity factors are the largest contributor to this projected increase in cancer risk. The Air District has included age sensitivity factors in its Toxics NSR program health risk assessments since 2010. As a result, the Air District expects that including the remaining guideline changes (age specific exposure variables with the CARB 95/80 daily breathing rate policy, fraction of time at home, exposure duration, and spatial averaging) will result in about a 40% increase in inhalation cancer risk for most sources compared to the Air District's current toxics NSR risk assessment procedures.

For health risk assessments that include TACs with multiple exposure pathways,<sup>4</sup> OEHHA's 2015 HRA procedures may result in additional increases in calculated cancer risk compared to the 2003 HRA procedures. Due to the wide variety of possible multiple exposure pathway projects, it is difficult to predict exactly how large of an impact the 2015 risk calculation procedures will have on future projects. However, the Air District found that using 2015 HRA procedures in HRAs for several projects involving multi-pathway pollutants resulted in cancer risks that were 3-5 times higher than cancer risks determined using current Air District procedures. Less than 5% of the Air District's new source review risk assessments involve multi-pathway pollutants.

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<sup>4</sup> TACs with multi-pathway cancer impacts include: arsenic, inorganic arsenic compounds, chromium (hexavalent), inorganic hexavalent chromium compounds, di(2-ethylhexyl) phthalate (DEHP), hexachlorocyclohexanes, lead, inorganic lead compounds, 4,4-methylene dianiline and its dichloride, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), and dioxin like PCBs.



## B. Proposed TAC Trigger Level Changes

The Air District uses toxic air contaminant (TAC) emission rate trigger levels to determine the need for a health risk assessment (HRA) for a project involving new and modified sources. The TAC trigger levels are considered to be reasonable de minimus emission rates (acute and chronic) for use at a project-level. Projects with emissions below the TAC trigger levels are unlikely to cause, or contribute significantly to, adverse health risks. These TAC trigger levels are also used: (1) to establish permit requirements for certain sources that may otherwise qualify for permit exemptions, (2) as part of the applicability of the accelerated permit program, and (3) in determining permit fees.

The Air District is proposing to move the Toxic Air Contaminant (TAC) Trigger Levels table from the rule (Table 2-5-1) to the Air District's permit handbook. This will allow for more timely incorporation of future updates to OEHHA HRA guidelines and health value revisions. The Air District is proposing to rearrange the columns in this table for user convenience. In addition, the Air District is proposing to revise the TAC trigger levels based on OEHHA's revised health risk assessment guidelines (2015) and based on any new or revised health effects values adopted by OEHHA since Table 2-5-1 was last revised. A copy of the proposed revisions to the Toxic Air Contaminant (TAC) Trigger Levels table is provided in Appendix B of this staff report. This table identifies the proposed changes to the Air District HRA trigger levels and the toxicity weighting factors for each TAC, and it includes all health effects value revisions on which the new trigger levels and toxicity weighting factors are based.

The proposed TAC trigger levels are calculated using: (1) target health risk levels that are considered de minimus for project-level risks; (2) OEHHA health effect values; (3) generally conservative modeling procedures that establish the extent to which a TAC is transported and dispersed in the atmosphere after it is emitted from the source; and (4) health-protective assumptions regarding the extent of an individual's response to an emitted TAC.

For non-carcinogenic compounds, the trigger levels will not change unless there is an updated OEHHA health effect value for that compound. The proposed TAC trigger levels will decrease by about 30% for most carcinogenic TACs. For a few compounds that have significant carcinogenic impacts from a non-inhalation pathway (lead, methylene dianiline, PCBs, and chlorinated dioxins and furans), the TAC trigger level will decrease by about 90%.

### Target Health Risk Levels

For the proposed TAC trigger levels, the Air District is not proposing any changes to the target health risk levels. For chronic health risk, the Air District uses a cancer risk of 1.0 in a million ( $1.0 \times 10^{-6}$ ) and a non-cancer hazard index of 0.2 as the target health risk levels; these are the risk thresholds at which TBACT is required (Section 2-5-301). For

acute health risk, the Air District uses a hazard index of 1.0 as the target health risk level, which is the same as the acute non-cancer hazard index limit for projects (Section 2-5-302.3).

### Health Effects Values and Toxicity Weighting Factors

The Air District's current TAC trigger level table contains OEHHA health effects values that were adopted by OEHHA prior to January 6, 2010. This table also includes Air District toxicity weighting factors that are used for calculating toxicity weighted emissions for modified sources. These toxicity weighting factors are based on the chronic health effects values for the compound and include: chronic reference exposure level (CREL) weighting factors and cancer potency (CP) weighting factors. The Air District developed these weighting factors assuming multi-pathway exposure where applicable, and continuously operating sources for residential receptor exposure. The Air District's proposed TAC trigger level table in Appendix B incorporates all health effects values adopted by OEHHA as of November 1, 2015 and any updates to the Air District's toxicity weighting factors due to revisions of either OEHHA guidelines or OEHHA health effect values. The specific changes to the Air District's table are discussed in more detail below.

After the Air District's TAC trigger level table was last revised in 2010, OEHHA added a new non-carcinogenic TAC, caprolactam. OEHHA also updated acute or chronic reference exposure levels (RELs) for the following compounds: benzene, 1,3-butadiene, nickel, nickel compounds, selenium, and selenium sulfide. Previously, the acute RELs for some compounds were based on exposure periods longer than 1 hour, and the Air District had identified these compounds in Footnote 3 to the Air District's TAC trigger level table. OEHHA revised these acute RELs such that all acute RELs are now based on a 1 hour exposure period. The Air District is incorporating all of these REL related revisions into the proposed TAC trigger level table and is updating the related non-carcinogenic toxicity weighting factors (CRELs) and trigger levels.

In addition to the REL revisions above, OEHHA adopted 8-hour RELs for the following compounds: acetaldehyde, acrolein, arsenic, inorganic arsenic compounds, arsine, benzene, 1,3-butadiene, caprolactam, formaldehyde, manganese, manganese compounds, mercury, inorganic mercury compounds, mercuric chloride, nickel, and nickel compounds. The Air District does not use these 8-hour RELs to calculate risk assessment trigger levels, but these 8-hour RELs are used in worker exposure assessments. The Air District is identifying the new 8-hour RELs in the proposed TAC trigger level table in Appendix B.

OEHHA has not revised any inhalation cancer potency factors since 2010, but OEHHA added an oral cancer potency factor for hexavalent chromium in 2011. The Air District is updating the associated toxicity weighting factor (CP) and chronic trigger level for hexavalent chromium compounds.

For compounds with multi-pathway carcinogenic health effects (any compounds with an oral cancer potency value), the cancer risk calculation procedures are changing due to the new OEHHA guidelines. These cancer risk calculation procedure revisions also affect the Air District's toxicity weighting factors for such compounds. Therefore, the Air District is proposing to revise the cancer potency (CP) weighting factors for all carcinogens with multi-pathway exposure routes.

OEHHA updated the Toxicity Equivalency Factors (TEFs) for a number of chlorinated dioxins and furans and dioxin-like PCBs. These updates are included in the Air Districts proposed TAC trigger level table, and the Air District is removing an obsolete sub-category for PCBs.

### *Air Dispersion Modeling Procedures and Receptor Response Assumptions*

The Air District's TAC trigger levels are calculated using conservative air dispersion modeling procedures and receptor response assumptions. These calculations include several criteria that are impacted by the OEHHA guideline revisions, such as breathing rate and exposure duration assumptions. The revised trigger levels were calculated using the new default data and procedures for residents that are discussed in detail in Section IV.A. (i.e. 95/80 DBR policy for the age-group specific breathing rates, default FAH values for each age-group, and 30-year exposure duration). The current trigger levels already include consideration of age sensitivity factors. The air dispersion modeling procedures and receptor location assumptions did not change.

## **C. Proposed Regulation 2, Rule 5 Amendments**

The Air District is proposing to amend Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. The rule is organized into six sections as follows: General (section numbers in the 100's), Definitions (200's), Standards (300's), Administrative Requirements (400's), Monitoring and Records (500's), and Manual of Procedures (600's). In addition, the Air District is proposing to move risk screen trigger levels (Table 2-5-1) from the rule to the Air District's permit handbook. This will allow for timely incorporation of future revisions to OEHHA's HRA Guidelines and health effects values. A copy of the proposed revisions to this rule is provided in Appendix A of this staff report. The proposed revisions to each section of this rule are discussed below.

### *General Requirements*

The General requirements define the applicability of the rule and identify any exemptions from the rule or from specific sections of the rule.

**Section 2-5-110: Exemption, Low Emission Levels:** The Air District is proposing to clarify that project emission increases for a TAC must be less than both the acute and chronic trigger levels for the TAC to qualify for this exemption. The Air District is also proposing a new location for the Air District's Toxic Air Contaminant Trigger Levels

table. The Air District is proposing to remove this table from Regulation 2, Rule 5 to ensure more timely updates of health effects values and risk assessment procedural updates. This table and the new location are also identified in Sections: 222, 223, 402, and 604.

**Section 2-5-112: Limited Exemption, Modified Source with No Increase in Toxicity Weighted Emissions:** The Air District is proposing to add this section to clarify how contemporaneous emission reductions at a modified source are taken into consideration. As described in Sections 2-5-216 and 2-5-601.4, the Air District may consider contemporaneous emission reductions at a modified source when calculating emissions for that source or conducting a risk assessment for a project involving that modified source. The Air District added these provisions for handling contemporaneous emission reductions at a modified source to encourage modifications that would result in lower toxicity weighted emissions for a source. However, the current language is not clear about the specific procedures to follow when a modified source has lower toxicity weighted emissions after a modification. Therefore, the Air District is proposing to add Section 2-5-112, which will exempt a modified source from the requirement to undergo a new health risk assessment, if the source modification does not result in any increases in toxicity weighted emissions. This exemption is a limited exemption because other sections of Regulation 2, Rule 5 may still apply to the modified source. For example, if a source is currently subject to TBACT and undergoes a modification that results in a decrease in toxicity weighted emissions, the source would continue to be subject to TBACT, unless the applicant requests a new HRA to demonstrate that the post-modification source would not trigger TBACT pursuant to Regulation 2-5-301. A modified source that is part of a larger project would still contribute to the project's emissions, and the post-modification emissions would need to be included in the calculation of total project emissions to assess the applicability of Section 2-5-110. Likewise, the post-modification emissions of a modified source may need to be included in the health risk assessment for the entire project to ensure compliance with project risk limits in Section 2-5-302 or with Air Toxic Hot Spots Act requirements. The Air District is also proposing to delete text concerning contemporaneous emission reductions at a modified source from Sections 216 and 601.4 to avoid confusion.

**Section 2-5-113: Applicability and Circumvention:** The Air District is proposing to renumber this section due to the addition of Section 112 above.

### Definitions

This section of the rule contains definitions for terms used in this rule. These definitions are necessary to clarify the Air District's emissions calculations and risk assessment procedures. The Air District is proposing to modify a number of definitions to ensure conformity with the 2015 risk assessment and risk management guidelines. The Air District is also proposing definition revisions to clarify and streamline calculation procedures for modified sources.

**Section 2-5-206: Cancer Risk:** The Air District is proposing to revise this definition to be more consistent with OEHHA's 2015 risk assessment procedures. Cancer Risk may be determined for a variety of exposure durations, depending on the type of receptor (resident, worker, student, etc.).

**Section 2-5-211: Health Risk Screening Analysis:** The Air District is proposing to change the term and acronym "Health Risk Screening Analysis (HRSA)" to "Health Risk Assessment (HRA)" for consistency with OEHHA's terminology. The new term and acronym are used throughout the rule in Sections: 212, 217, 218, 221, 401, 402, and 603.

**Section 2-5-212: Maximally Exposed Individual, or MEI:** The Air District is proposing to change the acronym HRSA to HRA for consistency with OEHHA's terminology.

**Section 2-5-216: Project:** The Air District is proposing to extend the related permit application look-back period from two years to three years, because projects may take longer than two years to complete. The purpose of this revision is to further discourage circumvention of HRA requirements. The Air District is also proposing to remove the calculation baseline of January 1, 1987 that applies to modified sources to streamline emission calculation procedures for modified sources. As discussed above for Section 2-5-112, the Air District is proposing to clarify the impacts of having no increase in toxicity weighted emissions at a modified source by adding Section 112 and removing unnecessary language from Sections 216 and 601.4.

**Section 2-5-217: Project Risk:** The Air District is proposing to change the acronym HRSA to HRA for consistency with OEHHA's terminology.

**Section 2-5-218: Receptor Location:** The Air District is proposing to change the acronym HRSA to HRA for consistency with OEHHA's terminology. The Air District is also adding the term "or control" to clarify that receptor locations may be located within the property boundary of a facility, if these locations are not under the control of a facility, such as areas that are open to the public or that have been leased to another entity.

**Section 2-5-221: Source Risk:** The Air District is proposing to change the acronym HRSA to HRA for consistency with OEHHA's terminology.

**Section 2-5-222: Toxic Air Contaminant, or TAC:** The Air District is proposing to identify a new location for the Air District's Toxic Air Contaminant Trigger Levels table.

**Section 2-5-223: Trigger Level:** The Air District is proposing to identify a new location for the Air District's Toxic Air Contaminant Trigger Levels table.

**Section 2-5-218: Worker Receptor:** The Air District is adding the term "or control" to clarify that worker receptor locations may be located within a property boundary of a facility if these locations are not within the control of a facility.

## Standards

This section of the rule contains the health risk standards that apply to all new sources, all modified sources, and all projects. The standards are summarized below. The Air District is not proposing any revisions to these standards.

### **Section 2-5-301: Best Available Control Technology for Toxics (TBACT)**

**Requirement:** This section identifies the source risk thresholds (1.0 in a million cancer risk and 0.2 chronic hazard index) at which TBACT is required. If a source results in a health risk that is greater than either of these TBACT thresholds, the source is required to employ TBACT. The Air District identifies TBACT requirements for common source types in the Air District's BACT/TBACT Workbook, which is available on line at: <http://www.baaqmd.gov/permits/permitting-manuals/bact-tbact-workbook>.

**Section 2-5-302: Project Risk Requirement:** This section establishes health risk limits for the combined impacts from all new or modified sources in a project. The project health risk limits are: cancer risk of 10.0 in a million, chronic hazard index of 1.0, and acute hazard index of 1.0. Any project subject to this rule cannot exceed these project health risk limits. As described in Section 2-5-216, a project includes all new or modified sources in a single permit application and may also include new or modified sources in previous permit applications, if the projects are related.

Although the Air District is not proposing any revisions to the above standards, the other proposed rule revisions will make this rule more stringent, because the calculated health risk will be higher using the proposed procedures compared to the current procedures.

## Administrative Requirements

This section of the rule identifies various administrative requirements that are necessary for the Air District to determine compliance with this rule. These administrative requirements include various guidelines and other publications related to this rule that the Air District must periodically update.

**Sections 2-5-401: Health Risk Screening Analysis Requirements:** The Air District is proposing to change the term "Health Risk Screening Analysis (HRSA)" to "Health Risk Assessment (HRA)" for consistency with OEHHA's terminology.

**Sections 2-5-402: Health Risk Screening Analysis Guidelines:** The Air District is proposing to change the term "Health Risk Screening Analysis (HRSA)" to "Health Risk Assessment (HRA)" for consistency with OEHHA's terminology. The Air District is also removing the Table 2-5-1 citation as this table is being moved.

### Monitoring and Records

This section of the rule identifies monitoring and record keeping requirements. The current rule indicates that the Air District may impose any reasonable monitoring or record keeping requirements deemed necessary to ensure compliance with this rule. The Air District is not proposing any changes to this section of the rule.

### Manual of Procedures

This section of the rule identifies various procedures that must be followed when demonstrating compliance with the standards in this rule. The Air District is proposing revisions to these sections to streamline and improve emission calculation procedures for modified sources.

**Section 2-5-601: Emission Calculation Procedures:** In Section 2-5-601, the Air District is proposing to clarify several emission calculation procedures for modified sources.

The current procedures for a modified source involve calculating the total post-1987 emission increases for a modified source. Actual and permitted TAC emission levels at the January 1, 1987 baseline date can be difficult to identify and verify. In addition, a modified source may be subject to NESHAPs, ATCMs, or Air District rules that would require an additional assessment of an adjusted baseline TAC emission rate that is different from the criteria pollutant adjusted baseline emission calculation procedures in Regulation 2-2-605.

In Sections 601.3 and 601.4, the Air District is proposing to streamline emission calculation procedures for modified sources by basing the HRA on the total post-modification emission rate from the modified source and by removing the January 1, 1987 baseline date. This will eliminate the need to calculate pre-modification or baseline TAC emissions for most modified sources, unless the site wants to demonstrate that a modification has not occurred or that the project will result in toxicity weighted emission reductions for some TACs. The proposed procedure for calculating pre-modification baseline TAC emissions for a source is more consistent with the new source review baseline emission calculation procedures in Regulation 2-2-605. The Air District is also removing unnecessary text from Section 601.3.2 and is adding Section 601.3.3 to clarify toxicity weighted emission calculation procedures related to Section 2-5-112.

Overall, the Air District's health risk based compliance assessments will be more comprehensive, if the toxic NSR HRA is based on the total post-modification emission rate for a modified source instead of the post-1987 emission increases for a modified source. In addition to verifying compliance with project risk limits, the Air District must ensure that post-project emissions from a project will not trigger any new requirements under the Air Toxics Hot Spots Act (such as public notification or mandatory risk reduction). This Air Toxic Hot Spots Act compliance demonstration is less complicated,

if the HRA is based on total post-modification emission rates rather than post-1987 emission increases.

**Section 2-5-603: Health Risk Screening Analysis Procedures:** The Air District is proposing to change the term “Health Risk Screening Analysis (HRSA)” to “Health Risk Assessment (HRA)” for consistency with OEHHA’s terminology.

**Section 2-5-604: Calculation Procedures for Toxicity Weighted Emissions:** The Air District is proposing to identify a new location for the Air District’s Toxic Air Contaminant Trigger Levels table.

Table 2-5-1 Toxic Air Contaminant (TAC) Trigger Levels

As discussed in Section IV.B of this report, the Air District is proposing to move the TAC trigger levels from the rule (Table 2-5-1) to the Air District’s permit handbook. This will allow for timely incorporation of future OEHHA HRA guidelines and health value revisions.

## **V. IMPACTS OF AIR TOXICS NSR PROGRAM CHANGES**

The Air District’s proposals to update the Air Toxics NSR Program will increase the stringency of this program. Although the Air District is not proposing any changes to the current toxic new source review risk management thresholds, implementing the 2015 OEHHA risk assessment guidelines will result in lower risk screen trigger levels for most of the carcinogenic TACs and will result in higher cancer risks for the same level of TAC emissions. As a result, more new source review projects will be subject to health risk assessment requirements, more NSR projects will trigger best available control technology for toxics (TBACT), and more NSR projects will require revisions or limitations to meet the Air District’s project risk limits. The Air District’s proposed changes to the Air Toxics NSR Program will reduce the amount of TAC emission increases allowed for new projects and will reduce TAC emissions for modified sources.

The Air District conducts about 300 health risk assessments per year for a wide variety of new and modified sources. Common source types that require HRAs include: diesel-fired internal combustion engines, other types of combustion operations, and gasoline stations. The Air District also conducts new source review HRAs for remediation operations, cement plants, concrete batch plants, asphalt plants, petroleum refineries, coating and solvent operations, tanks and loading operations, landfills, waste water treatment plants, metal melting plants, coffee roasters, and other types of industrial facilities.



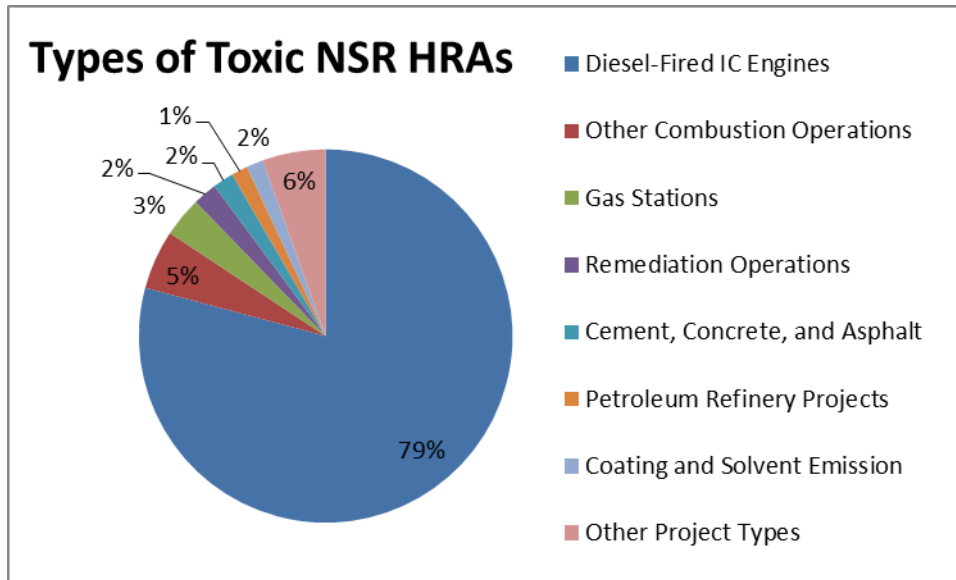


Figure 4. Types of Toxic NSR Projects that Triggered HRAs during 2010-2015.

As shown above, about 80% of the toxic NSR HRAs that the Air District conducted in 2010-2015 involved diesel-fired IC engines. The Air District's HRA trigger level for diesel engine exhaust particulate matter is currently 0.34 pounds per year. At this trigger level, most diesel fired engine projects, including small emergency standby engines, are currently subject to Air District HRA requirements pursuant to Regulation 2, Rule 5.<sup>5</sup> Although the Air District is proposing to reduce the diesel engine exhaust particulate matter threshold to 0.26 pounds per year, this proposed trigger level reduction is not expected to increase the number of diesel engine projects subject to HRA requirements because almost all diesel engine projects are currently subject to HRA requirements. In fact, the number of diesel fired IC engine projects subject to HRA requirements may decrease in the future as low emission Tier 4 engine projects become more common.<sup>6</sup>

The Air District conducts about 60 HRAs per year for toxic NSR projects involving non-diesel engine combustion operations, gas stations, remediation operations, petroleum refinery projects, and other project types. As discussed in Section IV.B. of this report, the Air District is proposing to reduce the HRA trigger levels for most carcinogens by about 30% and to reduce the HRA trigger levels for a few multi-pathway carcinogens by about 90%. These HRA trigger level reductions will increase the number of toxic NSR projects that are subject Air District HRA requirements. The Air District expects that an additional 100 projects per year may require HRAs as a result of the proposed trigger level reductions. The estimated number of HRA increases per year by project type are:

<sup>5</sup> A 50 bhp diesel-fired emergency standby engine meeting Air District TBACT requirements and operating for no more than 20 hours per year for reliability related testing would trigger Air District HRA requirements under the current HRA trigger level for diesel PM (0.34 pounds per year).

<sup>6</sup> A Tier 4 diesel-fired emergency standby engine (< 150 bhp) and operating for no more than 50 hours per year for reliability related activities would not trigger an HRA at the proposed diesel PM trigger level of 0.26 pounds per year.

15 per year for non-diesel engine combustion operations, 40 per year for gas stations, 10 per year for remediation operations, 10 per year for petroleum refineries, and 25 per year for other projects.

Based on a review of recent Air District HRA results, most projects subject to HRA requirements and using the 2015 risk calculation procedures will comply with project risk limits without any additional project revisions, because most toxic NSR projects have health impacts that are far below the Regulation 2, Rule 5 project risk limits. For example, a diesel-fired engine powering an emergency generator that meets TBACT and has a project cancer risk of 7 in a million using AERMOD dispersion modeling procedures and current Air District risk calculation procedures would have a project cancer risk of 9.8 in a million or less using the proposed risk calculation procedures. Therefore, this engine project would comply with the Regulation 2, Rule 5 project risk limit of 10 in a million cancer risk using the proposed cancer risk calculation procedures. At least two-thirds of the toxic NSR projects that the Air District has evaluated since 2010 had a cancer risk less than 7 in a million.

The Air District expects that about one third of the toxic NSR projects (about 130 HRA projects per year) may need to undergo additional health risk assessment refinements. About 80 projects per year may need to reduce operating hours, throughput rates, or emission rates in order to meet the Regulation 2, Rule 5 TBACT or project risk limits using 2015 risk calculation procedures. Abatement devices, such as diesel particulate filters or oxidation catalysts, may be necessary for about 10 additional projects per year.

Gas station applications are included in the above projections. Most gas station applications involve dispenser replacements or other equipment improvements that do not involve any emission TAC increases. Based on recent application data, about 5% of the gas station applications (10 projects per year) involved new or modified gas stations with TAC emission increases that were subject to health risk assessment requirements. The Air District estimates that the proposed rule changes may increase the number of new or modified gas stations subject to risk assessment requirements up to about 50 projects per year.

The Air District conducted preliminary health risk assessments for several gas stations using 2015 risk calculation procedures. The Air District found that maximum health impacts from gas stations are highly dependent on the gasoline throughput rate and the distance to the closest residential receptor. For the stations evaluated, a cancer risk of 10 in a million (the maximum amount allowed under the proposed Regulation 2, Rule 5) occurred at gasoline throughput rates ranging from 2-11 million gallons per year for resident receptor distances ranging from 60-250 feet, respectively. Thus, new gas stations could be limited to 2 million gallons per year of gasoline throughput if residences are located very close to the proposed gas station. For the typical resident receptor distances observed for the large throughput level stations (at least 300 feet), gasoline throughput rates of 14 million gallons per year could be approved for new stations. For modified gas stations, the entire proposed throughput level will be evaluated in the HRA, under the proposed revisions to Regulation 2, Rule 5. Thus,

modified gas stations will be subject to the same potential throughput limitations as new stations: 2-14 million gallons per year.

The Air District expects that gasoline throughput rates for new or modified gas stations may need to be limited below requested levels in some cases. Currently, about 400 gas stations (about 25% of the retail gas stations) have a throughput rate greater than 2 million gallons per year, but only 1 gas station has a throughput rate greater than 14 million gallons per year. The Air District expects that gasoline throughput limitations could impact 10-15 new or modified gas station projects per year. If an applicant requests a throughput increase at a gas station and the Air District finds that the current permitted throughput rate results in a cancer risk of more than 10 in a million, the Air District would not approve an increase in the throughput rate. In addition, pursuant to the Air Toxics Hot Spots Act, the gas station would need to either reduce the current permitted throughput rate or begin conducting the Hot Spots public notification process.

In summary, the proposed revisions to the Air Toxics NSR Program will:

- Increase the stringency of this program,
- Allow less toxic emission increases for new or modified sources than would be allowed by the current program,
- Increase the number of new or modified projects that will be subject to HRA requirements from about 300 projects per year currently to about 400 projects per year,
- Increase the number of new or modified projects that will be required to implement risk reduction measures (i.e. operating time limitations, throughput limitations, additional abatement, or other project modifications) to meet TBACT or project risk limitations in Regulation 2, Rule 5 by about 80 projects per year.
- Necessitate gasoline throughput limitations ranging from about 2-14 million gallons per year, depending on the proximity of residential receptors to the project location, for about 25% of the new or modified gas station projects that trigger risk assessment.

## **VI. COST RECOVERY**

The Air District has the authority to assess fees to regulated entities for the purpose of recovering the reasonable costs of implementing and enforcing applicable regulatory requirements. On March 7, 2012, the Air District's Board of Directors adopted a Cost Recovery Policy that specifies that newly adopted regulatory measures should include fees that are designed to recover increased regulatory program activity costs associated with the measure (unless the Board of Directors determines that a portion of those costs should be covered by tax revenue).

In accordance with the adopted Cost Recovery Policy, the Air District assesses risk screening fees for new and modified sources that are required to undergo health risk assessments pursuant to Regulation 2, Rule 5. The risk screening fees in Regulation 3:

Fees, Schedules B-K have recently been updated (effective July 1, 2015). The Air District does not anticipate a need to make any additional adjustments to risk screening fees at this time.



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## **WORKSHOP REPORT**

### **PROPOSED AMENDMENTS TO: AIR DISTRICT REGULATION 2, RULE 5: NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS**

#### **APPENDIX A**

#### **Proposed Rule Revisions**



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## **WORKSHOP REPORT**

### **PROPOSED AMENDMENTS TO: AIR DISTRICT REGULATION 2, RULE 5: NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS**

#### **APPENDIX B**

#### **Proposed Risk Screen Trigger Level Revisions**



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## **WORKSHOP REPORT**

### **PROPOSED AMENDMENTS TO: AIR DISTRICT REGULATION 2, RULE 5: NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS**

#### **APPENDIX C**

#### **Proposed Air District HRA Guidelines**