

California Air Toxics
"Hot Spots"
Information and
Assessment Act (AB 2588)



2017 Air Toxics "Hot Spots" Program **ANNUAL REPORT**

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MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

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INTRODUCTION

The California Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) was enacted by the Legislature in 1987 to address public concern over the release of toxic air contaminants into the atmosphere. The law requires facilities that emit toxic substances to provide local air pollution control districts with information to identify sources of toxic air contaminants, assess air toxic problems, locate resulting “hot spots,” notify persons that may be exposed to significant risks, and develop effective strategies to reduce potential risks to the public.

A requirement of the Air Toxics “Hot Spots” Information and Assessment Act (Section 44363 of the California Health and Safety Code) is for local air pollution control districts to provide the public with an annual progress report on the program. This report fulfills that requirement by providing information about emission inventories, approved Health Risk Assessment Reports (HRA), public notification procedures, and steps undertaken to reduce public health risks. State and local health officials may use the report to establish priorities for developing and implementing air toxic control measures to protect public health.

This report summarizes the Air Toxics “Hot Spots” Act program elements, the current status of the program in the Mojave Desert Air Quality Management District (MDAQMD or District), results of local Health Risk Assessment Reports, current status of public notifications, and conclusions drawn from the program to date. This report reflects facility data of emissions released in calendar year 2017 or earlier. Please note that this report date reflects a release date of 2019 due to the fact that several facilities required the submission of a Health Risk Assessment Report based on their 2016 emissions data, which can take up to two and a half years to complete due to the submission and review processes by the MDAQMD and the Office of Environmental Health Hazard Assessment (OEHHA). Some of these Health Risk Assessment Reports triggered by the 2016 emissions data are still pending.

Emission estimates for facilities regulated by the MDAQMD, are available by request from the MDAQMD. Please make these requests to engineering@mdaqmd.ca.gov or contact the engineering section at 760-245-1661.

BACKGROUND

The District is the implementing agency for approximately 1,400 facilities required to comply with the Air Toxics “Hot Spots” Act. The law requires facilities to submit information that is used to achieve the objectives of the program. This information includes:

- (1) *Emission Inventory Reports* – Facilities must submit the information needed by the District to prepare a toxic emissions inventory report. The District then prioritizes the health risks associated with each facility to determine if a Health Risk Assessment Report (HRA) is required based upon the amount and toxicity of the reported emissions. See Facility Prioritization on page 3.

- (2) *Health Risk Assessments* – Facilities required to submit a Health Risk Assessment Report (HRA) must determine the level of public exposure to emitted compounds, and the potential adverse public health impacts. The Office of Environmental Health Hazard Assessment (OEHHA) assists the District in reviewing each HRA, and is responsible for developing and providing risk managers in state and local government agencies with toxicological and medical information relevant to decisions involving public health.
- (3) *Public Notification* – If an adverse health impact exceeding public notification levels (specified in District Rules 1320 and/or 1520) is identified, the facility must provide notice to all exposed persons regarding the results of the Health Risk Assessment Report (HRA). See Public Notification and Risk Reduction on page 10.
- (4) *Risk Reduction Audits and Plans* – Facilities with emissions that pose a potentially significant public health risk must submit a risk reduction audit and plan to the District. This plan must demonstrate how the facility will reduce health risks below significant levels. The facility must implement the plan as approved by the District. See Public Notification and Risk Reduction on page 10.

The California Air Resources Board (CARB) lists more than 700 compounds that are assessed under the Air Toxics “Hot Spots” Act and are potentially carcinogenic or may cause acute and chronic non-cancer health problems. Facilities subject to the Air Toxics “Hot Spots” Act are required to update their toxic inventories at least once every four years.

CARB Guidelines allow local air districts such as the MDAQMD to utilize air toxics analyses conducted as part of its toxics permitting (Rule 1320 - *New Source Review for Toxics Air Contaminants* and Rule 1520 - *Control of Toxic Air Contaminants from Existing Sources*) process, in-lieu of requiring separate quantification of air toxics emissions to satisfy the Air Toxics “Hot Spots” Act. These guidelines require that the New Source Review permit contain conditions to ensure calculated toxic risk is not exceeded. Providing integration of the Air Toxics “Hot Spots” Act with District’s permitting program is a time and cost savings both for the District and affected facilities without compromising the intent of the regulation or public health.

FACILITY PRIORITIZATION

Prioritization procedures consider the magnitude of toxic air contaminant emissions from facilities and the toxicity of those emissions, but do not consider the expected health risks posed by the emissions. Requiring a facility to prepare a Prioritization Score does not mean the facility poses a significant risk to public health.

Facilities are placed into one of the three Prioritization Categories based on their Prioritization Score:

- (1) *High Priority Category* – Facilities are required to prepare and submit a HRA.
- (2) *Intermediate Priority Category* – Facilities may be required to conduct a HRA at a future date if toxic risk continues to increase.
- (3) *Low Priority Category* – Facilities are not required to conduct a HRA.

A summary of the Prioritization Categories are shown in Table 1, below:

Table 1: Prioritization Score Categories

	Prioritization Category		
	<i>High</i>	<i>Intermediate</i>	<i>Low</i>
Facility Prioritization Score	Score \geq 10	1 \leq Score < 10	Score < 1

Facilities are Prioritized as part of a permitting evaluation for any proposed new and/or modified equipment and are Re-Prioritized at least every four years. The Facility Prioritization is based on either the maximum potential to emit for any new equipment, and/or their most recently approved toxic emissions inventory report. All inventory reports are prepared using the California Air Pollution Control Officers Association’s (CAPCOA) *Air Toxic “Hot Spots” Program Facility Prioritization Guidelines* (August 2016). These Guidelines were revised in 2015 in response to revisions to the Office of Environmental Health Hazard Assessment’s (OEHHA) updates to the health risk assessment methodology.

The updates to the health risk assessment methodology was triggered by the passage of the Children’s Health Protection Act of 1999 (SB 25, Stats. 1999) requiring OEHHA to ensure infants and children are explicitly addressed in assessing risk. The new risk assessment methodology addresses this greater sensitivity and incorporates the most recent data on childhood and adult exposure to air toxics. For some sources, the revised Prioritization Guidelines and OEHHA risk assessment methodology may result in higher estimated potential cancer risk than previously estimated for the same level of emissions and conditions. This means that facilities that were categorized as Intermediate Priority in the past may now be categorized as High Priority under the revised Prioritization Guidelines and OEHHA risk assessment methodology even without any increase in actual emissions from the facility.

This means that many facilities that hadn’t been categorized as High Priority in the past are now in this category, thus are required to submit a subsequent Health Risk Assessment (HRA). Table 2 lists the facilities that were updated with the new risk methodology in 2016 and categorized as High Priority, thus have a HRA pending. The MDAQMD uses the *Air Toxic “Hot Spots” Program Facility Prioritization Guidelines* (August 2016) produced by the California Air Pollution Control Officers Association (CAPCOA) and the Air Toxic and Risk Managers Committee (TARMAC). This guidance can be found on the CAPCOA website at: <http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf>

Table 2 – Summary of Facilities Categorized as High Priority and Subsequently have HRAs Pending for Emission Year 2016

<i>HRA Date</i>	<i>Facility No.</i>	<i>Facility</i>	<i>Location</i>	<i>Status as of October 2019</i>
2019 (EY16)	6	CEMEX - River Plant	Victorville	HRA under OEHHA review.
2019 (EY16)	Co. No. 1489	International Aerospace Coatings, Inc.	Victorville	HRA under OEHHA review.

RISK ASSESSMENT

A Health Risk Assessment (HRA) is a study of the possible public health risks that may be posed by emissions of toxic air contaminants emitted from a facility. Each facility that has been categorized as a High Priority during the Facility Prioritization process must prepare and submit a HRA to the District.

The HRA calculates the health risk using a CARB-approved computer model called the Air Dispersion Modeling and Risk Tool (ADMRT). This tool is in the software suite of the Hotspots Analysis and Reporting Program (HARP) that evaluates emissions reported by the facility. A HRA includes a comprehensive analysis of the dispersion of hazardous substances into the environment, the proximity of receptors and the potential for human exposure, and a quantitative assessment of both individual and population wide health risks associated with those levels of exposure. The CARB and MDAQMD require that some cautious assumptions be used in the HRA to insure potential adverse health effects are not underestimated. For example, under a Tier 1 risk assessment, a HRA typically estimates the cancer risk for a residential receptor as an individual who would remain at the one location with the greatest potential for exposure to toxic air contaminant emissions from the facility for 24 hours a day, 350 days per year, for 30 years.

While the HRA procedures are generally considered to be conservative, it is important to note that there are some limitations to consider when evaluating the results. For example, a HRA is based on emission estimates for the indicated inventory year, only. Years other than that specific inventory year may have higher or lower emissions and are not included. Additionally, the cumulative effect of background air toxic emissions from other nearby mobile, area, and stationary sources, and the potential for complex mixtures of toxic air contaminants to create an additional health problem by their combined reaction to each other, cannot be estimated and are not included in the HRA. Also, some facility emission estimates are based on average factors for individual types of equipment while actual emissions may be lower. Finally, the HRA results only indicate potential impacts from compounds that have been reviewed and assigned a health risk Reference Exposure Level by the Office of Environmental Health Hazard Assessment (OEHHA). Compounds that have not been reviewed and assigned a health risk Reference Exposure Level by OEHHA are not included in the HRA.

As mentioned, CARB lists more than 700 compounds to be assessed under the Air Toxics “Hot Spots” program. The list includes potentially carcinogenic substances as well as compounds that may cause health problems such as respiratory irritation or central nervous system depression. The toxicity

varies from compounds that pose concern if more than a few grams are emitted per day, to those that may pose no significant health risks if many pounds are emitted per day. OEHHA reviews and updates the toxicity of the listed compounds on a routine basis in addition to adding newly identified compounds of health concern. All HRAs are required to use the most current list of toxic compounds and associated Reference Exposure Levels available. HRAs must adhere to California Air Pollution Control Officers Association's (CAPCOA) and OEHHA's guidance and methodology. These documents can be found at the following links:

- (1) CARB/CAPCOA's: *Risk Management Guidance for Stationary Sources of Air Toxics* (May 2015): <https://www.arb.ca.gov/toxics/rma/rmgssat.pdf>
- (2) OEHHA's *Air Toxics Hot Spots Program Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* (February 2015): <https://oehha.ca.gov/air/crnrr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0>

Each HRA is reviewed by the District and OEHHA, and any deficiencies must be corrected by the facility. The results of all HRAs prepared under this program are available for public review. A summary of the results of the HRAs prepared under this program within the MDAQMD is presented in Table 3.

As with all emissions information accumulated by the District, the MDAQMD's air toxic emission inventory is public information and available for public review upon request to the District. Please make these requests to engineering@mdaqmd.ca.gov or contact the engineering section at 760-245-1661. Additionally, all air district emission inventory data is accessible to the public through the State's (CARB's) California Emission Inventory Development and Reporting System (CEIDARS) website at <http://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php>.

This annual Air Toxics "Hot Spots" Report ranks and identifies facilities according to cancer and non-cancer risk posed, and describes toxic control measures. After presentation at a public hearing, this annual Air Toxics "Hot Spots" report is distributed to the San Bernardino County Board of Supervisors, city councils in the District, and the County Health Officer.

CURRENT STATUS OF HEALTH RISK ASSESMENTS

MDAQMD has jurisdiction of the geographic area shown below. Stretched out over almost 20,000 square miles of California's vast desert expanse, the MDAQMD, is geographically, the second largest of the state's 35 air pollution control districts. The MDAQMD's boundaries include the desert portion of San Bernardino County and those portions of the County of Riverside commonly known as the Palo Verde Valley.



Map Not to Scale

CRP/06/18

The MDAQMD's rural areas provide significant dispersion potential for most sources within the District's jurisdiction. The MDAQMD is also unique in that it has a vast variety of large industrial sources, which are subsequent facilities subject to the Air Toxics "Hot Spots" Act. Examples include Portland cement manufacturing facilities, various mineral mining industries, several military installations, gas utility compressor stations, and power generating facilities.

As discussed in previous sections of this report, the District routinely and programmatically assesses potential health risk from each facility under its regulative authority. Those facilities which have a health risk that has been prioritized as a High Priority are required to prepare a Health Risk Assessment (HRA). A summary of the results of the HRAs prepared under this program is presented in Table 3. A summary of the facilities that have been categorized as High Priority and have a HRA pending is presented in Table 2 – please note that the results of these HRAs are still under review and are expected to be reported in the District's 2018 and/or the 2019 *Annual Air Toxics "Hot Spots" Reports*.

Table 3: Summary of Facility HRA Results

HRA Date (Emission Year)	Facility No.	Facility	Location	Maximum Individual Cancer Risk ¹	Chronic THI ²	8 Hour Chronic THI ³	Acute THI ⁴
<i>Facilities required to implement a risk reduction plan and conduct quadrennial public notification:</i>							
There are no facilities in this category at this time.							
<i>Facilities that have implemented a risk reduction plan and currently have risks below the public notification level:</i>							
There are no facilities in this category at this time.							
<i>Facilities required to conduct quadrennial public notification:</i>							
2018 (EY16)	535	PG&E - Hinkley Compressor Station	Hinkley	27.2	0.174	0.1064	0.867
2014 (EY13)	2, 7, 79	Searles Valley Minerals Operations, Inc ⁶	Trona	3.46	0.494	NA	22.6
2018 (EY16)	3	CalPortland Cement	Oro Grande	68.6	1.1	0.14	0.78
2018 (EY16)	246	Ducommun AeroStructures	Adelanto	17.2	0.073	4.75e-7	1.44
<i>Facilities not required to implement a risk reduction plan and not required to conduct quadrennial public notification:</i>							
2010	3007, 3008, 3009	Solar Partners - Ivanpah Solar ⁵	Ivanpah	0.08	<1	NA	<1
2007	364	Union Oil Molycorp (Mountain Pass Mine) ⁵	Mountain Pass	5	0	NA	0.49
2007	591, 3245, 3247, 3250, 3251, 3252	USMC AGCC	Twentynine Palms	2	<0.29	NA	0.24
2000		Blythe Energy Project ⁵	Blythe	0.4	0.21	NA	0.03
2018 (EY16)	1849	High Desert Power Project ⁶	Victorville	0.0346	0.00038	0.00038	0.0475
2018 (EY16)	39	PG&E Topock	Needles	8.86	0.0421	0.0213	0.276
2018 (EY16)	2933	Sully Miller	Victorville	8.75	0.68	0.119	0.248
1997	6	Southdown River Plant (CEMEX - River Plant)	Victorville	7.1	0.066	NA	0.12
<i>HRAs that have been superseded by a more recent version:</i>							
2001	2, 7, 79	Searles Valley Minerals	Trona	4.39	1.03	NA	20.4

1999	1849	High Desert Power Project	Victorville	<1.4	0.10	NA	0.8
2009	3	CalPortland Cement	Oro Grande	7	1.52	NA	1.43
1994	535	PG&E - Hinkley Compressor Station	Hinkley	2	0	NA	0.09
<i>Facilities that have conducted HRAs that have ceased operation:</i>							
There are no facilities in this category at this time.							

Footnotes for Table 3:

1. Maximum Cancer Risk is the probability (chances per million) of a potentially maximally exposed individual contracting cancer as a result of exposure to carcinogenic air contaminants
2. Chronic total health hazard index (THI) is the sum of the ratios of the average annual exposure level of each compound to the compound's reference exposure level (REL). Actual chronic THI will likely be less.
3. The 8 hour chronic non-carcinogenic hazard index is evaluated only for the maximally exposed individual worker (MEIW). Evaluation of 8 hour chronic HI is not a requirement of HRA conducted prior to 2015 (Initiated by OEHHA 2015 Risk Assessment Updates).
4. Acute THI is the sum of the ratios of the maximum one-hour exposure level of each compound to the compound's REL. Actual acute THI will likely be less.
5. Facility underwent major renovations and improvements from 2012 to 2015. Inventory updated to reflect upgrades resulting in lower emissions and a facility PS less than 8 (Intermediate Priority). Additionally, this facility changed ownership in 2017 from Union Oil Molycorp to Mountain Pass Mine. Toxic emissions under the new ownership will be evaluated for emission year 2018.
6. HRA results are from District approved screening risk assessments carried out pursuant to District air toxics permitting program. Air emissions are represented at maximum potential to emit.
7. Searles Valley Minerals provided a District-approved screen risk assessment in 2016 which demonstrates the risk to be less than the Risk Reduction threshold. Additionally, Searles Valley Minerals is currently preparing a new HRA based on emission year 2017 data.
8. Cancer burden is the estimated increase in the occurrence of cancer cases in a population resulting from exposure to carcinogenic air contaminants. The cancer burden was evaluated from each facility listed in the table above individually with no facility exceeding the MDAQMD Rule 1520 action risk level of 0.5.

PUBLIC NOTIFICATION AND RISK REDUCTION

Once a HRA has been reviewed and approved by the District and OEHHA, the Air Toxics “Hot Spots” Act program requires facilities with health risks over specified levels to provide public notice to all exposed persons. In addition, facilities with significant risks are required to reduce health risks below the significant risk levels within five years by submitting a risk reduction plan that must be approved by the District. The established public notification and significant risk levels (as well as public notification and risk reduction procedures) are codified in District Rule 1320 and District Rule 1520. The threshold levels for triggering public notification and risk reduction are presented in Table 4.

Table 4: Public Notification and Significant Risk Levels

	Public Notification Level	Risk Reduction Level
Maximum Individual Cancer Risk ¹	≥10 in a million	≥100 in a million
Cancer Burden ²	NA	0.50
Total Chronic Noncancer Health Hazard Index ³	≥1.0	≥10
Total Acute Noncancer Health Hazard Index ³	≥1.0	≥10

1. Maximum Individual Cancer Risk is the probability (chances per million) of a potentially maximally exposed individual contracting cancer as a result of exposure to carcinogenic air contaminants.
2. Cancer Burden is used to evaluate risk from a population basis. Cancer Burden is the estimated increase in the occurrence of cancer cases in a population resulting from exposure to carcinogenic air contaminants. The result of this calculation is a single number that is intended to estimate of the number of potential cancer cases within the population that was exposed to the emissions for a lifetime (70 years).
3. Noncancer Hazard Indices are an indicator of potential noncancer health effects (e.g., eye or respiratory irritation, reproductive, or developmental effects, etc). They are the ratio of the estimated concentration of a specific pollutant compared to the reference exposure level for that pollutant. A pollutant’s reference exposure level identifies the potential threshold level for some type of pollutant-specific toxic effect. It is important to note that hazard indices above one do not necessarily mean there is certainty for an adverse effect; rather, it indicates there may be the potential for adverse effects that warrant further investigation.

In establishing public notification procedures, the District considered input from the California Air Pollution Control Officers Association’s (CAPCOA’s) *Air Toxics “Hot Spots” Program Public Notification Guidelines* (October 1992), CARB guidance, and other regulatory precedents. The MDAQMD’s *Air Toxic “Hot Spots” Program Public Notification Procedures* (May 1, 1996) are generally consistent with procedures adopted by other California air districts and are posted on the MDAQMD website here: <http://mdaqmd.ca.gov/Home/ShowDocument?id=6010>

Facilities required to perform public notification must distribute notices to each household and business that may be exposed to potential health risks exceeding the District's public notification level. Notifications must be prepared, approved by the District, and distributed on a quadrennial basis until the facility demonstrates to the District that it has reduced the potential health risk below the

notification thresholds. Table 5 lists the facilities within the MDAQMD that are currently required to conduct quadrennial public notification. It is important to note, again, that the preparation and review process of a HRA can span up to two and a half years to complete; therefore, an emission year that triggered a HRA in 2016 may not reach full review until mid-2019. This means that any public notification requirement triggered by the results of the HRA may not be fulfilled until nearly three years after the emission year.

Table 5: Facilities Required to Conduct Quadrennial Public Notification

HRA Date (Emission Year)	Facility	Location	Most Recent Notification Date
2018 (EY16)	PG&E – Hinkley Compressor Station	Hinkley	Pending
2018 (EY16)	CalPortland Cement	Oro Grande	Pending
2018 (EY16)	Ducommun Aerostructures	Adelanto	Pending
2014 (EY14)	Searles Valley Mineral	Trona	2017

Pursuant to the Air Toxics “Hot Spots” Act, facilities with significant public health risks must reduce those risks below significant risk levels within five (5) years of the approval of a risk reduction plan. There are currently no facilities in the MDAQMD that are required that have a significant public health risk; therefore, there are no facilities that are required to do risk reduction at this time.

RECENT AND EXPECTED UPDATES TO THE PROGRAM

Changes to the Air Toxics “Hot Spots” Act in 1992 required that OEHHA develop risk assessment guidelines for the Air Toxics “Hot Spots” Program, including a “likelihood of risks” approach to risk assessment. OEHHA has developed and published documents providing guidance for HRA work. These documents are listed below and are available for review at the corresponding links:

- (1) *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (February 2015)
<https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>
- (2) *Technical Support Document for the Derivation of Noncancer Reference Exposure Levels* (June 2008)
<https://oehha.ca.gov/media/downloads/cnr/noncancersdfinal.pdf>
- (3) *Technical Support Document for Cancer Potency Factors: Methodologies for derivation, listing of available values, and adjustments to allow for early life stage exposures* (May 2009)
<https://oehha.ca.gov/media/downloads/cnr/tsdcancerpotency.pdf>
- (4) *Technical Support Document for Exposure Assessment and Stochastic Analysis* (August 2012)
<https://oehha.ca.gov/media/downloads/cnr/tsdportfolio2012.pdf>

To supplement OEHHA's guidelines, CARB provided a document titled *Risk Management Guidance for Stationary Sources of Air Toxics* (July 2015)
<https://www.arb.ca.gov/toxics/rma/rmgssat.pdf>

In March 2015, OEHHA finalized updates to *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* triggered by the passage of the Children’s Health Protection Act of 1999 (SB 25, Stats. 1999) requiring OEHHA to ensure infants and children are explicitly addressed in assessing risk. The new risk assessment methodology addresses this greater sensitivity and incorporates the most recent data on childhood and adult exposure to air toxics. The combined effects of these updates will, in most cases, result in a higher calculated risk. The higher calculated risk may range from a very small increase, to as much as a factor of 2.7, depending on exposure type and other parameters.

This update in risk methodology has prompted the MDAQMD to re-evaluate every facility within the District for Air Toxics to ensure that all health risk Prioritization Scores and Health Risk Assessment (HRA) calculations have been updated to include the updated risk methodology. This District-wide update began with the 2016 emission inventory and will take approximately three years to complete, with the last updates made in calendar year 2019 for the 2018 emission year. This re-evaluation of Air Toxics has resulted in an increased number of facilities being categorized as High Priority, thus an increased number of facilities that are required to submit a subsequent Health Risk Assessment. Please see Table 2 for a summary of the facilities that have been categorized as High Priority and have a HRA pending.

INDUSTRYWIDE SOURCE CATEGORIES AND UPDATES

Some of the District’s smallest emitters are subject to the Air Toxics “Hot Spots” Act program, such as auto body shops, dry cleaners, and retail gasoline stations. To provide some relief from the burden of reporting, some of these sources are identified in the Program as “industry-wide” sources. CARB, in cooperation with the California Air Pollution Control Officers Association (CAPCOA), has adopted and continues to develop health risk guidelines, risk reduction plans, and audit plans that Districts may utilize to assess, reduce, and verify toxics emissions from industry-wide sources.

The “Auto Body Shop Industry-Wide Risk Assessment Guidelines” was approved by CAPCOA September 26, 1996, and the “Gasoline Service Station Industry-Wide Risk Assessment Guidelines” was approved in December, 1997 (Appendix E updated in November 2001). Updates to the “Gasoline Service Station Industry-Wide Risk Assessment Guidelines” are currently pending under the direction and participation of the local air pollution control districts, and this update is pending review as of October 2019. The MDAQMD inventories about 237 retail gas stations each year and the trend in emissions from retail gas stations has steadily declined, reduced each year by the CARB’s Vapor Recovery Program which controls vapor emissions from gasoline service stations. The MDAQMD assessed risk from each retail gas station, incorporating OEHHA 2015 risk assessment updates into the Gasoline Service Station Industry-Wide Risk Assessment Guidelines. The results of the MDAQMD gas station industrywide risk assessment show that none of these sources are a significant health risk and that the majority are low risk, obviously reflecting the emission reduction achieved through CARB’s Vapor Recovery Programs.

Additionally, the “Perchloroethylene (Perc) Dry Cleaner Industry-Wide Risk Assessment” was never finalized; however, on January 25, 2007, the California Air Resources Board (ARB) approved amendments to the Dry Cleaning Air Toxic Control Measure (ATCM) and adopted requirements for Perc manufacturers and distributors. These amendments will over time phase out dry cleaning

machines that use perchloroethylene by January 1, 2023. Since this ATCM's adoption the MDAQMD has phased out over 35 dry cleaning machines that used perchloroethylene. To date, there are only four dry cleaning machines that use perchloroethylene that remain in service. Most of these dry cleaning machines have been replaced with an alternative cleaning solvent that has little to no known toxicity associated with their use.

CONCLUSIONS

While facilities regulated by the MDAQMD emit toxic air contaminants, emissions from these stationary sources have been greatly reduced since 1989 due to the Air Toxic "Hot Spots" Act programs implemented at the District level. The issuance and enforcement of MDAQMD air permits ensure that stationary source facilities are in compliance with all District, State, and Federal air quality regulation. The MDAQMD's programmatic tracking of each facility's emissions through the Comprehensive Emissions Inventory Program ensures that each facility's toxic risk is re-evaluated on a routine basis, and that health risk notification and risk reduction is carried out in compliance with the Air Toxic "Hot Spots" Act. It is important to note that other non-stationary sources such as motor vehicles are the largest contributing source of toxic air contaminants; and, mobile, area and natural sources are also key contributors of toxic air contaminants, yet these aren't regulated by the MDAQMD at the local level.

Current and future air quality programs at the local, state, and federal levels continue to further reduce toxic air contaminants emissions:

Stationary Source Emission Reductions

As mentioned previously in this report, the MDAQMD is re-evaluating every facility to ensure that the updated OEHHA risk methodology is used to estimate health risk. The OEHHA risk methodology updates are more health-conservative and have prompted many facilities to re-evaluate their operations, or conduct a Health Risk Assessment to ensure that they continue to comply with the Air Toxic "Hot Spots" Act. The MDAQMD also continues to implement and enforce the state's Airborne Toxic Control Measures (ATCMs) on all applicable stationary source facilities. These ATCMs target specific toxic air contaminants from specific sources requiring stringent controls, and in some cases, complete elimination of air polluting products or equipment. For example, there are ATCMs that reduce emissions of diesel particulate matter from engines, perchloroethylene from dry cleaning operations, hexavalent chromium from electroplating operations, hexavalent chromium and nickel from metal deposition operations, and toxic metals from metal melting operations.

Similarly, the MDAQMD continues to implement and enforce the federal National Emission Standards for Hazardous Air Pollutants/Maximum Achievable Emission Standards (NESHAP/MACT) on all applicable stationary source facilities.

These NESHAP/MACT regulations have produced dramatic air toxic emission reductions from an array of source categories located in the MDAQMD such as Aerospace, Boat Manufacturing, Internal Combustion Engines, Portland Cement Manufacturing, Miscellaneous Coating Manufacturing, Municipal Solid Waste Landfills, Plastics and Surface Coatings, and Reinforced Plastic Composites Production. A complete list of the state's ATCMs can be viewed here:

<https://www.arb.ca.gov/toxics/atcm/atcm.htm>

A complete list of the federal NESHAP/MACT standards can be viewed here: <https://www.epa.gov/stationary-sources-air-pollution/national-emission-standards-hazardous-air-pollutants-neshap-9>. Additionally, measures to reduce emissions of volatile organic compounds as ozone precursors will also decrease emissions of toxic volatile organic compounds, and the MDAQMD is routinely amending source specific District Rules to implement and enforce measures to decrease emissions of toxic volatile organic compounds. Recent District rule amendments include: Rule 1104 – Organic Solvent Degreasing Operations, Rule 1118 – Aerospace Vehicle parts & Products Coating Operations, and Rule 1158 – Electric Power Generating Facilities.

Mobile and Area Source Emission Reductions

Mobile and Area sources are the predominant sources of air toxic emissions, and are typically regulated and enforced at the state and federal level. Reductions from these source types have long been occurring and are ongoing. There are both state and federal measures to reduce vehicle trips and miles traveled, as well as, increased requirements and incentives for alternative fueled and electric vehicles. The evolution of cleaner low-emission and zero-emission vehicles is an important step in reducing toxic air contaminants and improving overall air quality. The District works with State and Federal grant programs to secure funding for local citizens and business looking to reduce emissions, inclusive of toxic emissions, through source specific projects such as equipment replacement programs. In 2017, 23 vehicles registered in the MDAQMD were scraped as part of the Voluntary Accelerated Vehicle Retirement (VAVR) Program which compensates owners whom voluntarily remove older model vehicles (20 years or older) from service.

In conclusion, ongoing implementation of the Air Toxics “Hot Spots” Act Program will continue to reduce local public health risks associated with emissions of toxic air contaminants. Those efforts will improve information on levels of exposure and risk as well as identifying compounds, processes, and facilities that are potentially causing significant risks.