ARAQMD

Protecting the Air

Akron Regional Air Quality Management District

Annual Report for 2016

Contents

Figures and Tables

Introduction

This report is designed to give an overall picture of the Akron Regional Air Quality Management District's (ARAQMD) activities in the calendar year 2016. It describes how our agency is structured, the work performed by each section of our agency, and our agency's plans for the future.

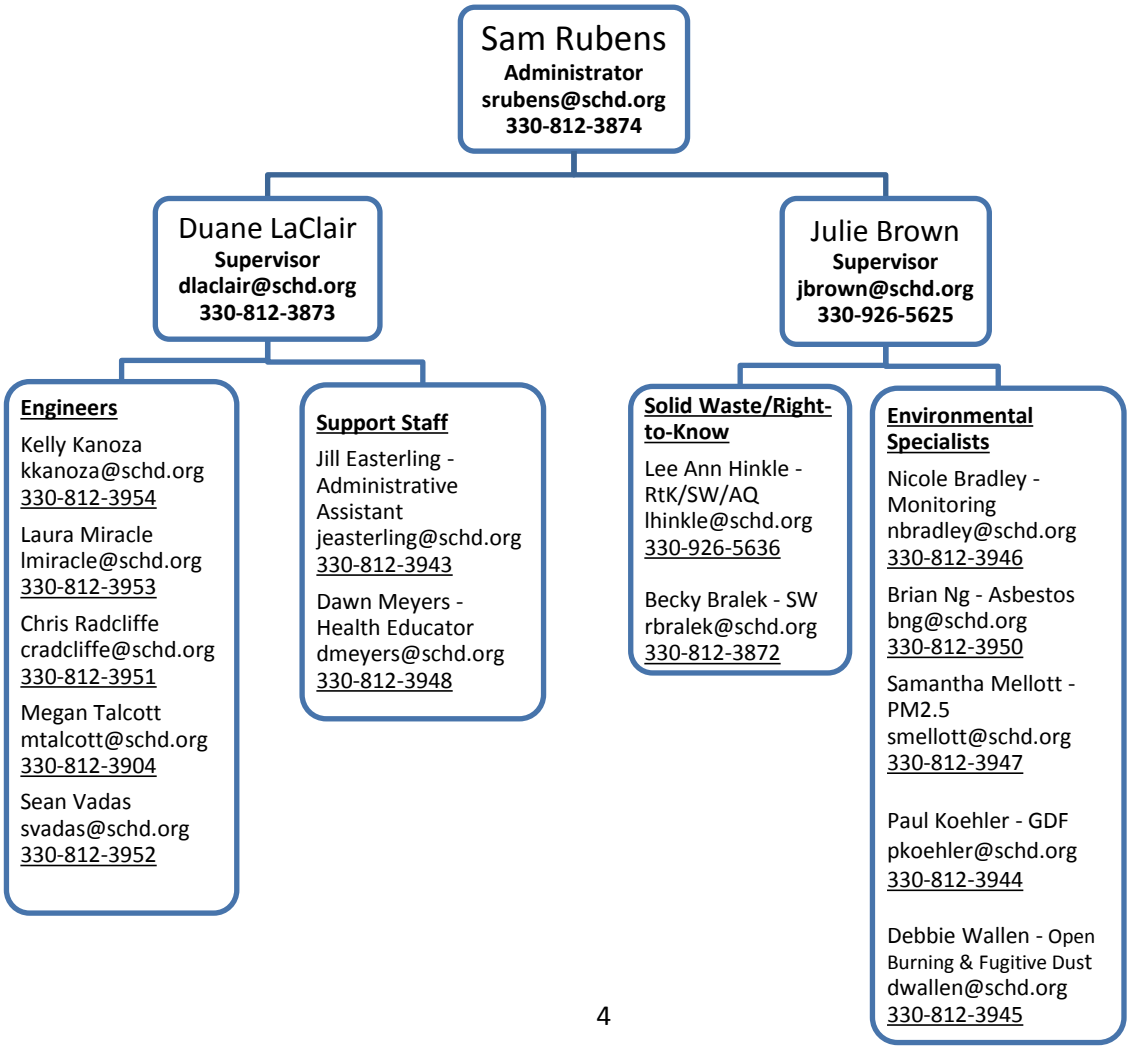
The administrative section of this report contains the fiscal status of this agency, staffing updates, an organizational chart, and a description of the future plans for the agency. The ambient air monitoring section has monitoring data summarized to explain where the region is with respect to attainment of the National Ambient Air Quality Standards (NAAQS) as well as updates on other monitoring projects and field activities the staff undertakes. Finally, the permitting section has a summary of the activities of the permitting staff and the facility inspections performed.

Administrative Section

Staffing

The year 2016 was very stable with respect to the organizational chart. There was no full-time employee turnover. The entire agency gained another year of experience. We did welcome a graduate student from Kent State University's MPH program, MacKenzie Baksh, as she completed her practicum project titled "Correlations Between Respiratory Disorders and Air Quality Among Children in NE Ohio" during the fall semester.

Figure 1: Organizational Chart (as of 1/1/17)



Budget

Local Fees

ARAQMD charges annual local fees to facilities based upon the allowable emissions of emissions units with active permits. These fees are invoiced in July for the previous calendar year. The revenue generated from the local fees is shown in Table 1. These funds are used to ensure that our operations and special projects better serve the companies and residents of the ARAQMD region. We have operated an Indoor Air Quality program since 1993, Air Quality Awareness week celebrations since 2010, we use the local fees as matching funds for the federal EPA funds, we use the funds to publish our quarterly newsletter "The Air You Breathe" and we plan on starting a program to assist local facilities and permit holders to stay or come into compliance with their permits in the first quarter of 2017.

Table 1: Local fee revenue

	2015 (actual)	2016 (actual)	2017 (projected)
Facilities	1003	1150	1150
Revenue	$245,805	$233,320	$233,320

Table 2: Revenue by source

	U.S. EPA Funds[1]	Ohio EPA Funds	Local Funds[2]	Enforcement[3]	Total
FY15 (actual)	$372,549	$950,582	$321,105	$9,150	**$1,653,386**
FY16 (actual)	$375,290	$963,940	$289,725	$25,406	**$1,654,361**
FY17 (projected)	$375,290	$922,832	$309,320	$25,000	**$1,630,442**

[1]U.S. EPA funds include $PM_{2.5}$ funds

[2]Local funds include local facility fees and asbestos notification fees

[3]Enforcement dollars cannot be spent on salary or benefits

Table 3: Overall budget

	FY15 (actual)	FY16 (actual)	FY17 (projected)
Total Revenue (Local, State/Fed, PM2.5)	$1,653,386	$1,654,361	$1,630,442
Salaries	$919,464	$782,198	$782,198
Benefits	$347,121	$315,849	$374,330
Other Expenditures (Office costs, Equipment, etc)	**$145,901**	**$438,001**	**$350,000**

With the phaseout of the GDF program, one position was not refilled following a resignation. Additionally, for the past few years, the income from asbestos notifications has increased significantly, but likely temporarily, as funds have been available to communities to demolish blighted, abandoned or vacant structures. This has resulted in the carry-over of funds that is expected to evaporate in the next few years as we prepare for state and federal reductions of funding. In 2016, it became necessary to upgrade the ambient monitoring network which accounts for the large increase in 'other expenditures' in Table 3.

Based on discussions with Ohio EPA and U.S. EPA, it appears that the projected cuts are looming on the horizon and may be significant. Projections, based on information provided to ARAQMD, show that we may see a decrease in funding of 13% from 2015 to 2020. Title V facilities and the associated emissions are declining, which reduces the amount of Title V fees the state collects; U.S. EPA is revising the formula which determines how much funding the State of Ohio will get; and the costs of salary and benefits will continue to rise over time. Should the anticipated cuts not follow, local fees will be reviewed and possibly decreased.

Strategic Plan Update

In 2013, ARAQMD created a strategic plan to allow for more effective and efficient use of the public funds. The aim of the strategic plan is to guide the agency toward a three year, strategically reasoned, future. The 2014-2017 ARAQMD Strategic Plan was published in June 2014 on the ARAQMD website after gaining approval from the ARAQMD Advisory Board.

The staff has been involved in many stages of the strategic planning process and continues to participate in this project. Through staff discussions, we have developed a mission statement, and identified public education, increasing the capacity of the division, becoming a leader in the field of air quality, and increasing office efficiency as organizational goals. The plan will be reviewed and revised annually with input from staff and management and the changes will be submitted to the ARAQMD Advisory Board for approval. The Strategic Plan will be due for an update in 2017.

The mission statement which will direct ARAQMD into the future is:

> *The mission of the Akron Regional Air Quality Management District (ARAQMD) is to protect the public from the adverse health impacts of air pollution and to educate the public about air quality issues.*

Goal 1: Educate the public on air quality issues

In an effort to increase awareness of air quality issues, ARAQMD disperses information through events, handouts, and print and digital media.

The ARAQMD staff performed many presentations for the regulated community, partner organizations, and the general public on topics such as open burning, fugitive dust, indoor air problems, and mold exposure. Training sessions with local fire departments, zoning inspectors, and construction companies have helped to foster better working relationships and awareness of air quality regulations. We have also staffed tables at public events such as Summit County Public Health events, KSU's College of Public Health Career Fairs, and Earth Day events.

We celebrated Air Quality Awareness week in 2016 by giving specially designed ARAQMD bags and tip sheet handouts to many of the local hospitals' respiratory therapy clinics, Summit County Library branches, health departments in the three county region and many WIC clinic offices. These bags were to be given to community members to expand knowledge of the public about air quality issues and what actions they can take to minimize problems from air pollution.

The Air You Breathe, our quarterly newsletter, is mailed to over 1200 addresses and over 100 are emailed to readers. We are currently attempting to change the hardcopy subscribers to the email version to reduce the environmental and financial costs of publishing the newsletter. The newsletter is archived on the ARAQMD website as well.

The Summer 2016 edition of the National Association of County and City Health Officials (NACCHO) journal, *NACCHO Exchange*, included an article titled "Climate Science and Air Quality: Inspiring the Next Generation", which highlighted the collaborative project between ARAQMD and the Akron Public School's STEM middle school.

We continue to communicate the daily Air Quality Index (AQI) and pollen count through social media, our website, and ARAQMD hotline messages twice daily.

Goal 2: Increase the capacity of the division

In 2015, ARAQMD initiated a special project to identify permitted facilities with emissions sources on registration status. An intern was hired to contact those facilities and update the state air resource system (STARS2) with current information. Some of these facilities had submitted their permit applications many years ago and, while operating legally, had never been issued final permits or were operating permitted sources which could qualify for a permit exemption or permit by rule. This process updated over 139 facilities and over 500 emissions units. While the internship ended before the project was completed, another staff member has taken it over and is forging ahead. The project should be completed in 2017.

As mentioned above, the staff has seen significant turnover in the past years. Nine of the seventeen staff members now have less than five years of experience in air quality, three more have slightly more than five years and five have over fifteen years of experience. The average tenure is 8.6 years. This allows ARAQMD the opportunity to leverage those with extensive experience to train the new staff, but also to get the new staff to state and national trainings to build the network of collaboration and knowledge sharing. It is expected that new staff will attend trainings so that they can help expand the field of air quality. As the older staff separate from ARAQMD over time, the current younger staff will become those with the most experience. As those who have more than fifteen years of experience were in the field of air quality soon after the 1990 Amendments to the Clean Air Act were implemented, this link to the past will be lost and the institutional knowledge will be reduced. As such, we plan to start a training protocol for staff members. A composite list of recommended trainings has been compiled and a plan to create a system of attainment levels is being finalized. These will be tied to the employee's annual performance evaluation and will allow for a revitalization of institutional knowledge.

During 2016, ARAQMD management formulated plans to open a business assistance program modeled after Ohio EPA's Office of Compliance Assistance and Pollution Prevention (OCAPP) in house. The new ARAQMD Small Business Compliance Assistance Program (SBCAP) is expected to open in 2017. This will be the only program of its kind at the local level in the state of Ohio. The Clean Air Act requires states to create a program to assist small businesses with attaining and maintaining compliance with the regulations through non-regulatory mechanisms, but local air agencies usually rely on the state's programs. The ARAQMD SBCAP will operate independently from the regulatory part of ARAQMD and will work with OCAPP on technical questions. The program will allow small facilities to complete their permit applications accurately, understand their requirements for recordkeeping and notifications, and to help bring companies into compliance with the regulations without being liable for penalties. However, if the facility is violating the regulations significantly or knowingly, the facility can be referred for enforcement. The goal of the program is to attain compliance without the need for enforcement proceedings.

Goal 3: Be a leader in the field of air quality

We will be conducting projects to increase awareness of our agency name so that the work we do can be recognized and we can become models of best practices for other Local Air Agencies (LAAs) across Ohio and the nation.

Starting in October 2015, the Akron Public School's Science, Technology, Engineering and Math (STEM) School and ARAQMD began the process of incorporating air quality topics into the seventh grade curriculum with a focus on implementing the 2BTechnologies Global Ozone (GO3) program. The STEM school seventh graders are the first group in Ohio to use the GO3 program. The GO3 curriculum brings air quality examples and topics into the students' education. The GO3 equipment was installed and has been running since June 2015. As described above, we were highlighted in a national journal for the collaboration.

Several professors at the University of Akron and Kent State University have requested that ARAQMD staff guest lecture for their classes. This gives us the opportunity to get in touch with students that may not have otherwise had the chance to hear about air quality and how it affects all of us. In 2016, classes were taught to honors students at the University of Akron's "Global Environmental Issues" course about air quality and how it affects them individually and as part of the global existence.

The goal of these projects is to spark interest in students so that they will steer their education towards the field of air quality. Once the topic of air quality is introduced and interest is fostered and mentored, the pool of prospective applicants for air quality jobs will be improved and the entire field of air quality can benefit. These projects will allow staff from ARAQMD to interact with students and teachers to mentor those who have an affinity for this field.

Another way that the ARAQMD staff are becoming leaders in the air quality field is by taking leadership roles in local, state and national organizations such as Ohio EPA workgroups, National Association of Clean Air Agencies (NACAA) and local community advisory panels. In October 2016, Sam Rubens was elected by the membership of NACAA to be the Vice-President of the board of directors. Of the seventeen ARAQMD staff members, nine are active as leaders in organizations at the local, state and national level. Although the majority of the ARAQMD staff members have less than five years of experience in air quality, they are showing a willingness to help lead ARAQMD into the future.

In the summer, ARAQMD signed onto a petition initiated by the South Coast Air Quality Management District (SCAQMD), which represents the Los Angeles, California population. The petition asked the U.S. EPA to consider dropping the NOx emissions from heavy duty trucks by a factor of ten. NOx is a precursor to ozone, which affects all areas of the country, including the ARAQMD region. The engines that emit the lower levels of NOx are commercially available and the cost increases are not that great relative to current engines. Due to these factors, we decided that it would be appropriate for ARAQMD to sign on as a co-petitioner. The other co-petitioners are: Pima County (Tuscon), AZ Department of Environmental Quality; Bay Area Air Quality Management District (San Francisco), CA; Connecticut Department of Energy and Environmental Protection; Delaware Department of Natural Resources and Environmental Control, Division of Air Pollution Control; Washoe County (Reno), NV Health District, Air Quality Management; New Hampshire Department of Environmental Services; New York City Department of Environmental Protection (NY); Washington State Department of Ecology and the Puget Sound Clean Air Agency (Seattle), WA. We had the opportunity to work with the Acting Assistant Administrator of Air and Radiation, Janet McCabe, and the head of the EPA's Office of Transportation and Air Quality, Chris Grundler, during this process. As of the end of 2016, the process of getting the ultra-low NOx emissions into policy is progressing. ARAQMD was thanked repeatedly for joining the petitioners, as it allows the EPA to see that not just the coastal agencies are concerned about ozone, but that the Midwestern states feel that ozone is a problem as well. On December 20, 2016, the petitioners were notified that the petition was successful and that EPA was going to initiate the process to issue a Notice of Proposed Rulemaking for a new on-highway heavy-duty NOx program with the intention of proposing standards that could begin in vehicle model year 2024.

Goal 4: Increase office efficiency

We have been working to identify issues in office practices which can be improved. One of those was that asbestos contractors were experiencing delays due to the requirement from Ohio EPA that we receive hard copy revisions with a 'wet signature'. Through the asbestos workgroup, we worked with other local air agencies and Ohio EPA to get that requirement loosened so that electronic revisions may be accepted. This reduces the work our staff has to do by scanning and logging incoming applications and reports and increases the benefits of our office to the regulated community. Another method that ARAQMD is increasing

office efficiency is by doing a LEAN project centered on the permitting section, improving onboarding process for information into the e-documents system.

Ambient Air Monitoring Section

Air Quality Index

Twice every weekday, ARAQMD reports the Air Quality Index (AQI) to the public by means of the ARAQMD website at http://araqmd.org/AQI.html, the agency Facebook page and the Air Quality Information line at 330-375-2545. The AQI is intended to advise the public of the potential health effects of the ambient air pollution. The AQI has six categories which have AQI values assigned. The AQI categories and the values are; Good (0-50), Moderate (51-100), Unhealthy for Sensitive Groups (101-150), Unhealthy (151-200), Very Unhealthy (201-300), and Hazardous (301-500). In 2016, 61% of the time the air quality was in the good range, 39% was in the moderate range. We did experience one day (9/23/16) where the AQI was in the unhealthy for sensitive groups range due to hazy, still and hot conditions.

Figure 3: Daily maximum AQI for Summit County, 2016

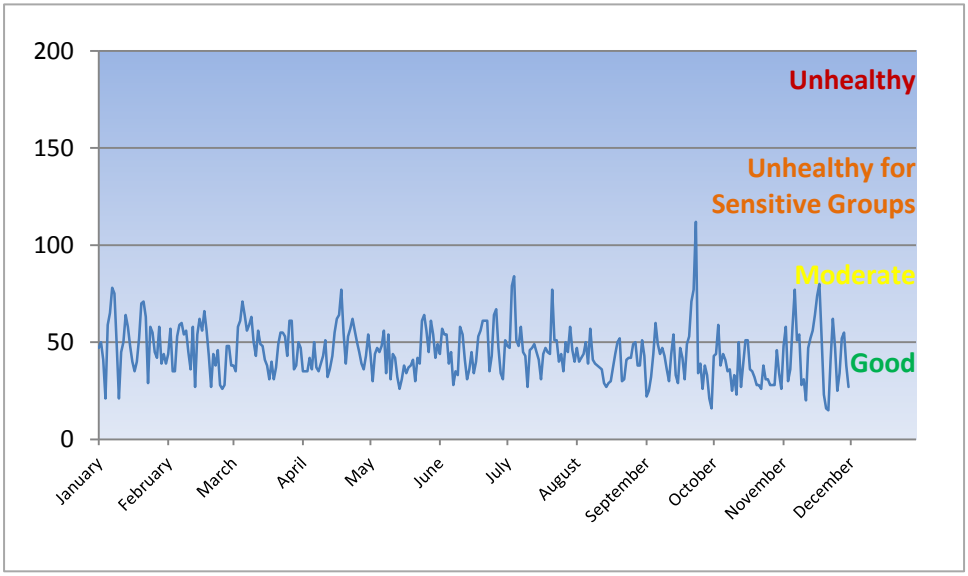
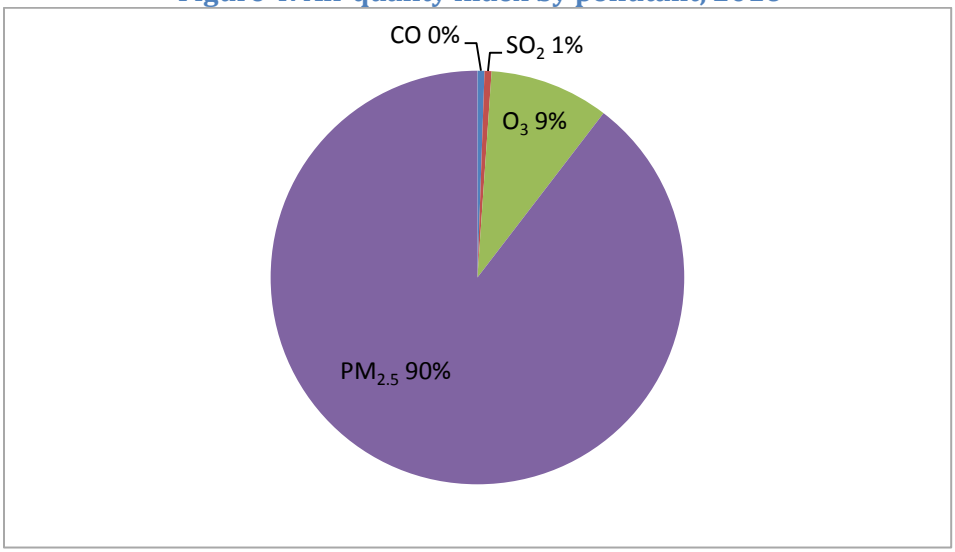


Figure 4: Air quality index by pollutant, 2016



Pollen Sampling

The ARAQMD staff collects and analyzes pollen from April 1 of each year through the beginning of October or until the first killing frost. Figure 5 shows the weekly averages of the total pollen count for 2015 and 2016.

There are three seasons each year; tree pollen, which occurs in the beginning of the season, grass season, which follows the tree pollen, and finally the ragweed season in August and September. Definite spikes were seen for pine, oak and maple tree pollen. In Figures 5 and 6, the pollen and ragweed counts can be examined in more detail.

Figure 5: Pollen counts by week, 2015-2016

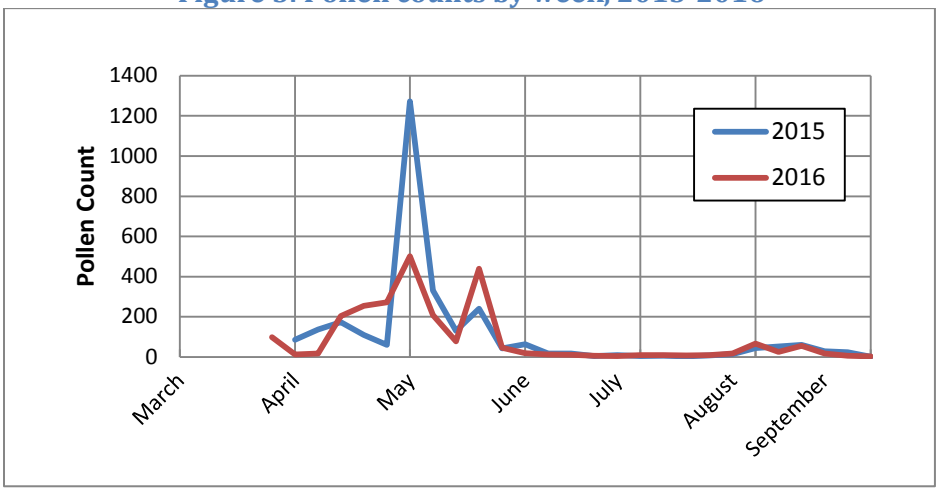
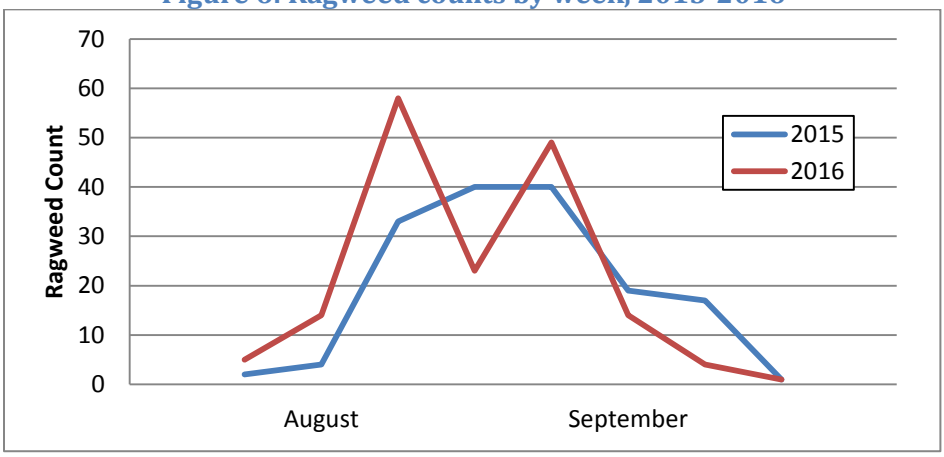


Figure 6: Ragweed counts by week, 2015-2016



In 2015, there was a sampling location change. As the new sampling location is located in a tree-filled neighborhood, pre-2015 historical data from downtown Akron will not be useful for comparisons. Starting with the 2015 data, new ranges will be calculated each year. Table 4 lists the ranges for use in the 2017 pollen season.

Table 4: Pollen and ragweed ranges for 2017 season

	Tree and Grass Pollen	Ragweed Pollen
Good (50th percentile)	0-25	0-11
Moderate (25th percentile)	26-85	12-26
High (10th percentile)	86-263	27-51
Very High (5th percentile)	264+	52+

Air Pollutant Monitoring

National Ambient Air Quality Standards

The National Ambient Air Quality Standards (NAAQS) were devised in the 1970 Clean Air Act, which was last amended in 1990. The NAAQS are reviewed periodically and may be revised by the EPA. The review of the NAAQS begins with a rigorous scientific study done by the Clean Air Scientific Advisory Committee (CASAC), an independent group that was created to advise the EPA in scientific matters. CASAC then makes recommendations to the EPA as to what the scientific research shows that the levels of certain pollutants should be to adequately protect human health.

Table 5: Current NAAQS

Pollutant	Level	Averaging Time
Carbon Monoxide (CO)	9 ppm	8 hour
	35 ppm	1 hour
Lead (Pb)	0.15 μg/m^3	Rolling three month average
	1.5 μg/m^3	Quarterly
Nitrogen Dioxide (NOx)	53 ppb	Annual Mean
	100 ppb	1 hour
Fine Particulate Matter ($PM_{2.5}$)	12.0 μg/m^3	Annual Mean
	35.4 μg/m^3	24 hour
Ozone (O_3)	70 ppb	8 hour
Sulfur Dioxide (SO_2)	30 ppb	Annual Mean
	140 ppb	24 hour
	75 ppb	1 hour

Particulate matter with a diameter of less than 2.5 microns ($PM_{2.5}$)

In 1987, the U.S. EPA made a change from total suspended particulate (TSP) to coarse particulate matter. PM_{10} is made of particulates which can reach the thoracic region or upper lung area of humans. Upon review in 1997, the U.S. EPA changed focus from PM_{10} (coarse particulate matter) to $PM_{2.5}$ (fine particulate matter) in the ambient air. The $PM_{2.5}$ can be inhaled into the lower lung region and is hard to exhale. Once in the moist and warm lower regions of the lungs, chemical reactions can occur and the chemicals in the particulate matter can become dissolved and be transported across the lung membrane into the blood stream.

There are two NAAQS for $PM_{2.5}$. The first is a 12.0 μg/m^3 annual arithmetic mean, averaged over three consecutive years. The second is a 35 μg/m^3 4th high 24 hour average. This standard is attained when the 4th highest 24 hour average, averaged over 3 consecutive years, is less than 35 μg/m^3.

ARAQMD's monitoring network for $PM_{2.5}$ consists of two continuous monitors located in Medina and Summit Counties, intermittent Federal Reference Method (FRM) monitors located in Summit, Portage and Medina Counties and speciation monitors located in Summit County. The intermittent monitors are used to determine if the region is in attainment with the NAAQS. The continuous monitors are used to determine the Air Quality Index (AQI) and for research projects which can help determine where particulate matter comes from, forecasting the AQI, and health effects. The speciation monitors are used for research projects, which determine the composition of the particulate matter and allow for controls to be put into place to minimize those sources.

It was proposed that the ARAQMD region be combined with the Canton/Massillon metropolitan statistical area (MSA) for $PM_{2.5}$ attainment purposes. As this action was granted by the U.S. EPA, ARAQMD is now in attainment for $PM_{2.5}$ for the first time since monitoring started in 1997. This designation allows for more

economic development in the region due to relaxed regulations on incoming industry. Table 6 below shows the values used to determine if the ARAQMD region is meeting the NAAQS.

Table 6: NAAQS comparison values for $PM_{2.5}$

Fine Particulate Matter ($PM_{2.5}$) Units: micrograms per cubic meter ($\mu g/m^3$)						
4^{th} Highest 24 Hour Average – limit 35 $\mu g/m^3$						
County	Site Name	2012	2013	2014	2015	2016
Summit	East High	20.3	24.7	22.5	20.4	16.7
Summit	5 Points	19.7	23.9	21.1	21.3	15.6
Portage	Ravenna	18.1	18.7	18.8	18.4	14.0
Medina	Chippewa	18.1	19.4	19.2	19.9	15.1
Annual Mean – limit 12 $\mu g/m^3$						
County	Site Name	2012	2013	2014	2015	2016
Summit	East High	10.9	10.3	10.7	10.3	7.2
Summit	5 Points	10.0	9.9	9.9	9.6	8.6
Portage	Ravenna	9.3	9.1	9.3	9.2	7.2
Medina	Chippewa	9.2	9.2	8.7	7.6	7.6

Sulfur dioxide (SO_2)

SO_2 is formed when sulfur-containing compounds are combusted. Most SO_2 in the air is caused by burning coal and smelting processes. Low-sulfur gasoline and coal are the goals for minimizing SO_2 production. SO_2 can be converted to sulfuric acid when it reacts with moisture in the air, on plants or in the lungs. Sulfuric acid is one of the most corrosive acids found in nature. If SO_2 is converted to sulfate (SO_4), it can be a lung irritant as well.

The monitoring network for SO_2 is comprised of two monitors located in Akron. The Downtown Akron site is a in a downtown canyon, which means that the buildings form a channel for air pollution, and the East High site was started to monitor emissions from a major tire company.

ARAQMD's jurisdictional area is in attainment for sulfur dioxide. The ARAQMD region has seen a 76% decrease in the annual mean of SO_2 since 1977.

Table 7: NAAQS comparison values for SO_2

Sulfur Dioxide (SO_2) Units: Parts Per Billion (ppb)					
1 hour average – limit 75 ppb					
Site Name	2012	2013	2014	2015	2016
East High	35	54	42	46	10
Downtown Akron	61	81	54	39	12

Carbon monoxide (CO)

CO is a colorless and odorless gas, and is an asphyxiant. It is formed by the incomplete combustion of carbon-containing fossil fuels. 95 percent of the CO in the urban airspace comes from man-made sources. CO binds to the hemoglobin in blood which minimizes the amount of oxygen the blood can carry throughout the body.

ARAQMD's monitoring network for CO includes two monitors in Akron. The Downtown Akron site is located to monitor the vehicle traffic's contribution to the pollution in the Akron area and the Patterson Park site is a background neighborhood site.

ARAQMD's jurisdictional area is in attainment for carbon monoxide. The ARAQMD region has seen an 86% decrease in the 1 hour maximum concentrations of CO since 1977.

Table 8: NAAQS comparison values for CO

Carbon Monoxide (CO) Units: Parts Per Million (ppm)					
Maximum 1 Hour Average – limit 35 ppm					
Site Name	2012	2013	2014	2015	2016
Patterson Park	1.7	1.4	1.5	3.5	1.6
Downtown Akron	1.5	1.5	1.3	2.6	1.4

Ozone (O_3)

O_3 is the only criteria pollutant that is not directly emitted into the atmosphere. It is created by chemical reactions in the ambient air. When volatile organic compounds and oxides of nitrogen are in the presence of ultraviolet light, ozone is formed. The health effects of ozone have been demonstrated in various ways. Reduction in lung function in normal, healthy people during periods of moderate exercise have been shown, and irritation of the eyes, mucous membranes and respiratory system are also possible.

The NAAQS for ozone has changed radically in the past few years. Until 1997, the NAAQS was a fourth highest one hour maximum of 125 ppb each year. In 1997, the one hour standard was left in place and a new method of evaluating the pollution was put into place. The eight hour fourth highest average over three consecutive years must be less than 84 ppb to be in attainment. In 2006, the one hour standard was revoked. In 2009, a new standard was enacted and was upheld by the courts in 2012. The newest NAAQS, implemented in 2015, is a three year average of the fourth highest eight hour standard. This must be below 70 ppb for a three year period.

ARAQMD has three ozone monitoring sites, one each in Medina (Chippewa), Summit (Patterson Park) and Portage (Lake Rockwell) County.

ARAQMD's jurisdictional area is designated as being in non-attainment for the 2009 NAAQS of an 8 hour maximum of 75 ppb. Although we are measuring concentrations below the NAAQS, Medina, Portage, and Summit counties are included as part of the Cleveland-Akron-Lorain MSA for ozone and, as such, are designated as non-attainment for ozone. The ARAQMD region has seen a 44% decrease in the 1 hour maximum concentration of ozone since 1977.

Table 9: NAAQS Comparison Values for O_3

Ozone (O_3) Units: Parts Per Billion (ppb)					
4th Highest Maximum 8 Hour Average – limit 70 ppb					
Site Name	2012	2013	2014	2015	2016
Patterson Park	70	64	58	65	62
Lake Rockwell	74	58	61	64	59
Chippewa	74	65	64	63	67

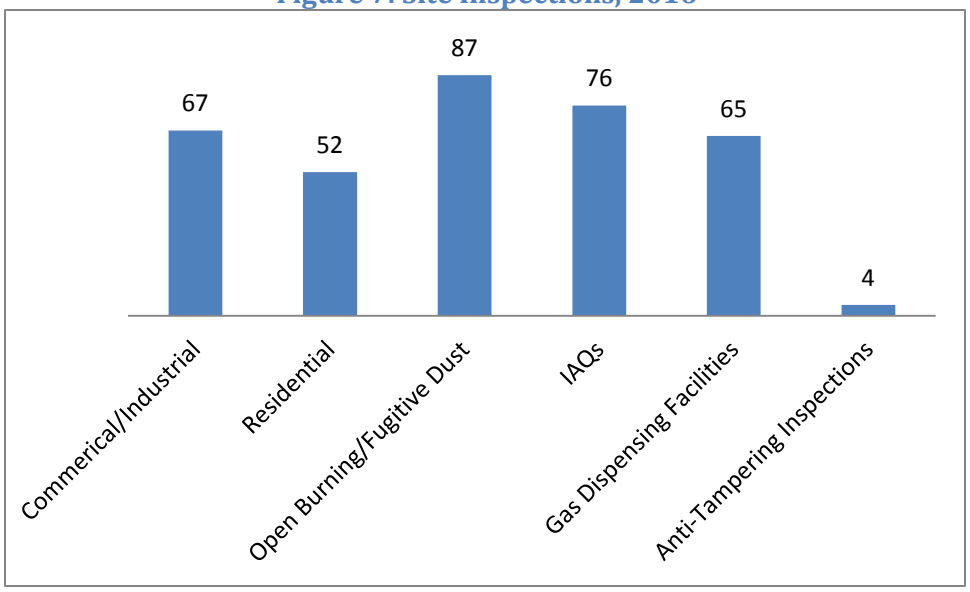
Monitoring equipment upgrades

The ambient air monitoring section began the upgrade of the monitoring network in 2016 by purchasing new ambient monitors. The monitoring network is comprised of two carbon monoxide sites, two sulfur dioxide sites, three ozone sites and four $PM_{2.5}$ sites. ARAQMD purchased two carbon monoxide, one sulfur dioxide and two ozone monitors in 2016. Plans are being made to purchase all new data loggers, meteorological systems, and automated calibration systems for the existing sites.

Additional Activities

In addition to ambient air monitoring, this section performs several additional activities which impact air quality, both indoors and out. Figure 7 shows the number of each of these activities performed in 2016. The categories are further described below.

Figure 7: Site Inspections, 2016



Open burning

ARAQMD staff members are responsible for inspecting incidents where open burning occurs. Open burning is defined by Ohio Administrative Code (OAC) 3745-19 as "the burning of any materials wherein air contaminants resulting from combustion are emitted directly into the air without passing through a stack or chimney." There are regulations on the location where burning may occur, what may be burned and when the burning can happen and who may conduct the burning. Notification must be made to ARAQMD to obtain a permit at least 10 working days prior to the intended burning. ARAQMD inspectors investigated 59 complaints and 25 open burning permits were issued in 2016.

Fugitive dust

Fugitive dust is regulated under OAC 3745-17-08. Fugitive dust can be generated from many sources such as spray painting booths, furnaces, traffic on roadways or parking lots, tilling farmland or digging, and construction activities. The regulations for fugitive dust require that there must be reasonably available control measures to minimize dust release when transporting, storing, or handling dust. Some control technologies are the use of water, asphalt or oil to suppress the dust, installation of hoods or fans to enclose, contain, capture, vent and control the fugitive dust. The ARAQMD staff members will inspect fugitive dust problems on a complaint-driven basis. In 2016, inspectors investigated 28 complaints about fugitive dust.

Indoor air quality

ARAQMD's Indoor Air Quality (IAQ) Program has been in place since 1993 and has assisted in over 4000 indoor air quality complaints in residential, commercial and school settings. In 2016, the program handled 76 inquiries. Some of the most common topics are mold, carbon monoxide, formaldehyde and soot buildup from candle burning. The indoor air staff members are educated to provide the latest information about air quality issues and health effects and how best to help the public protect their health. The IAQ program is designed to be a neutral, third-party source of information. As such, the program does not perform remediation or maintain a list of companies who do remediation work. The ARAQMD IAQ Program is available for those who work or reside in Summit, Medina or Portage Counties.

Gas dispensing facilities

Gasoline is very integrated into our culture. Due to the widespread availability of gasoline, gas dispensing facilities (GDFs) are subject to regulation by Ohio EPA. Since the ARAQMD region is in non-attainment for ozone, and gasoline since gasoline is an ozone precursor volatile organic compound (VOC), all GDFs in the region were previously required to utilize a Stage II vapor recovery system. A Stage II vapor recovery system includes a special nozzle, a boot, and a collection system for the vapors that are displaced when a tank is filled. The U.S. EPA has directed that by the end of 2016 all Stage II Vapor Recovery Systems must be decommissioned, because newer vehicles have onboard refueling vapor recovery (ORVR) control systems that are negatively affected by the Stage II systems. As such, in late 2013, ARAQMD started processing GDFs that were undergoing the decommissioning process and removing them from the inspection list. In 2014, 106 GDFs decommissioned their Stage II systems. In 2015, another 119 GDFs decommissioned. This left approximately 65 that needed to be decommissioned in 2016. All but three GDFs were decommissioned by the deadline. Those that did not complete the process were referred to Ohio EPA for enforcement action.

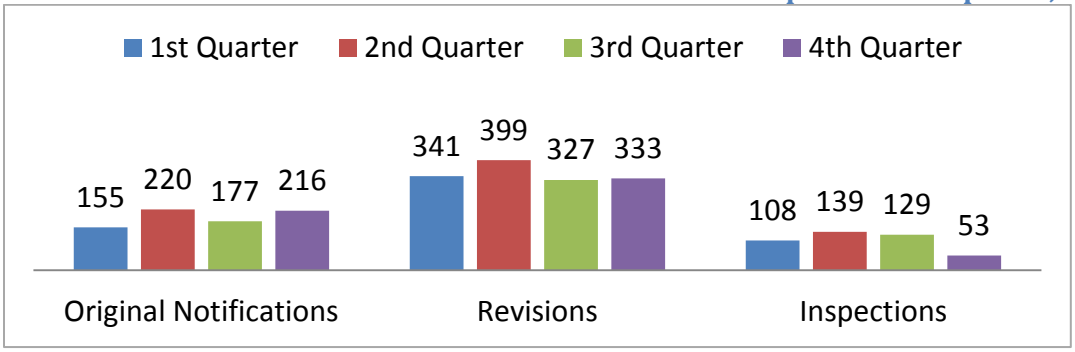
Asbestos

Asbestos is a naturally occurring mineral which was used as an insulating compound on pipes and houses until the 1950s. When properly encapsulated, asbestos is very useful. When asbestos is disturbed or is at the surface of the material it is in, the asbestos fibers can fracture and become airborne. This process is termed "friable." Studies have shown that when friable asbestos is inhaled, it can have a lengthy residence time in the lungs and cancer risk is increased significantly.

The ARAQMD staff is responsible for receiving original and revised notifications from asbestos remediation companies for asbestos related demolition and renovation activities, processing the paperwork, and inspecting the work being done to ensure that the remediation work is done correctly to minimize exposure to workers and accidental release to the ambient air. In 2016, ARAQMD inspectors achieved an inspection rate of almost 34%, which is well above the 15% inspection rate on initial asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) notifications received as required in our contract with Ohio EPA.

In 2012, the Moving Ohio Forward program was put in place to grant money from the Attorney General's Office to counties and/or land banks for the demolition of blighted, abandoned or vacant structures. As such, ARAQMD saw a huge increase in asbestos notifications and revisions starting in the last quarter of 2012, which has continued through 2016.

Figure 8: Asbestos notifications and revisions received and inspections completed, 2016



Permitting Section

Permit Issuance

As a contractual agent of Ohio EPA, ARAQMD is responsible for administering the Division of Air Pollution Control's (DAPC) permitting program requirements for sources of air contaminants in Medina, Summit, and Portage counties. The permitting process starts with the receipt of a permit application. The application is reviewed for preliminary and technical completeness in accordance with Ohio EPA policies and environmental rules and laws. There are a different permit options available depending on the type of source, existing air quality where the source is located, operational flexibility needed by the source, whether additional voluntary restrictions are included in the permit, and the required permitting action.

Types of sources

Title V/Major Source – Facilities with potential emissions of 100 tons per year or more of any one regulated pollutant (PM_{10}, NO_X, SO_2, CO, VOC, and lead); 10 tons per year or more of any one hazardous air pollutant (HAP); or 25 tons per year or more of any two or more HAPs. These facilities usually have very complex permitting requirements (e.g., medium to large sized industrial operations, utilities, refineries, etc.).

Synthetic Minor Title V (SMTV) – Facilities with potential emissions above at least one major source permitting requirement and/or Title V threshold, which have agreed to voluntarily restrict operations and the quantity of air contaminants emitted in order to avoid major source/Title V status.

Non-Title V (NTV)/Minor – Smaller emitting facilities, with potential emissions naturally below major source/Title V thresholds. These facilities generally have less complicated permitting requirements (e.g., small industrial operations, dry cleaners, gas stations, etc.).

Permit Exempt – Sources that qualify for an exemption under OAC rule 3745-31-03(B).

Types of permits

Permit-to-Install (PTI) – A permit issued for any new or modified source that is located at a Title V facility. It is effective for the lifetime of the source, or until the next modification.

Title V Permit-to-Operate (Title V PTO) – A comprehensive, facility-wide permit that identifies all regulated operations at a Title V facility. It has a five-year effective period.

Permit-to-Install and Operate (PTIO) – This permit document is issued to NTV and SMTV facilities. It is a relatively recent permit document type. Effective June 30, 2008, Ohio EPA began issuing a single PTIO (rather than a PTI, followed by a separate PTO) in order to streamline the permitting process for air contaminant sources at non-major facilities. The PTIO has a ten-year effective period, when issued to a NTV facility.

Federally Enforceable Permit-to-Install and Operate (FEPTIO) – This is a specific type of PTIO issued with federally enforceable limitations that restrict the facility-wide potential to emit in order to avoid various regulations. It has a five-year effective period.

Model General Permit (GP) – A general permit is the same as any PTI or PTIO except all the terms and conditions of the permit have been developed in advance. Potential applicants must meet specific qualifying criteria.

Permit by Rule (PBR) – A permit-by-rule is a specific permit provision in OAC rule 3745-31-03(C) that applies to certain types of low-emitting air pollution sources. A facility submits a PBR notification form for a specific source and operates the source in accordance with the terms and conditions specified in the applicable rule, but no permit document is generated. A PBR is in effect for the lifetime of the source.

Permitting actions

Initial Installation – A PTI or PTIO must be obtained before any new, non-exempt, air pollution source is constructed in Ohio pursuant to OAC Chapter 3745-31.

Chapter 31 Modification – Any physical change in, or change in the method of operation of an air contaminant source as defined under OAC rule 3745-31-01(SSS).

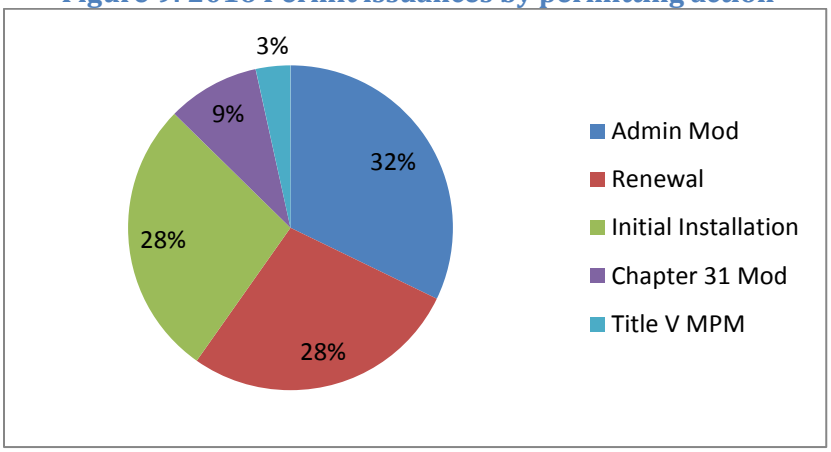
Administrative Modification – Any change to a PTI or PTIO that does not meet the definition of a Chapter 31 Modification.

Title V Minor Permit Modification – Changes that do not trigger Title I modifications or involve significant changes to monitoring, record keeping or reporting requirements in a Title V permit.

Renewal – The process by which a permit may be reissued at the end of its term.

Once the preliminary and technical review of the application is complete, ARAQMD's engineering staff develops the facility-wide and emission-unit specific permit terms and conditions. The permit terms establish limits on the quantity of air contaminants emitted and requirements for the operation of regulated air contaminant sources. Permit terms can also specify emission testing, monitoring, record keeping, and reporting requirements necessary to demonstrate compliance with the established emission limits. The working copy of the permit is then submitted to Ohio EPA for final review and issuance. During 2016, the ARAQMD staff processed 101 PBR exemptions and 96 final permits.

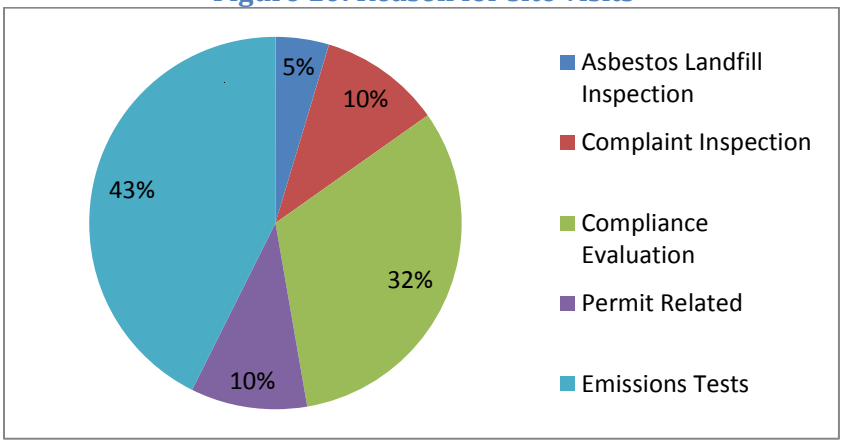
Figure 9: 2016 Permit issuances by permitting action



Permitted Facility Inspections

After permit issuance, ARAQMD's staff continues to monitor the compliance status of air contaminant sources by periodically reviewing required monitoring data, records and reports. This includes witnessing a minimum of 50% of all emissions tests conducted in ARAQMD's jurisdictional area, and reviewing test results to verify proper methodology and procedures were used to demonstrate compliance with permitted emission limitations. A total of 28 stack tests were performed at 15 facilities in 2016, and 96% of those were witnessed by ARAQMD staff. Scheduled and unannounced facility inspections are also conducted to ensure air contaminant sources are in compliance with applicable permit terms and state and federal regulations. Under contract with Ohio EPA, ARAQMD is required to conduct full compliance evaluations for at least 50% of all Title V sources and 20% of all SMTV facilities each year. There are a total of 20 Title V facilities, 64 SMTV facilities, and 372 NTV facilities located in ARAQMD's 3-county jurisdictional area. A total of 10 TV facilities and 14 SMTV facilities were inspected in 2016.

Figure 10: Reason for site visits



Special projects

In 2016, ARAQMD staff worked on the installation permit for the Wadsworth Compressor Station, which is one of five compressor stations slated for construction in Ohio along NEXUS Gas Transmission's planned natural gas pipeline. The NEXUS pipeline project generated a large amount of public interest and subsequent media coverage in Medina and other Ohio counties due to its proposed route through several populated areas. Many residents requested that Ohio EPA deny the air permit for the Wadsworth Compressor Station, however, the agency is legally obligated to issue the permit because the potential air contaminants from this facility are within the

emissions thresholds allowed under state and federal air pollution control regulations. ARAQMD staff responded to numerous information requests and presented at Ohio EPA's public hearing for the draft air permit which was held in February of 2016 and attended by nearly 400 people. The draft permit generated over 140 comments, which were thoroughly reviewed and addressed in the final permit issued in September of 2016. The following month the issuance of this permit was appealed to the Environmental Review Appeals Commission (ERAC). The ERAC Board is separate from Ohio EPA and reviews cases in accordance with Ohio's laws and rules. ARAQMD's responsibilities for this project will continue in 2017.

Conclusion

In 2016, ARAQMD saw changes and continued to progress towards meeting the goals outlined in the Strategic Plan. ARAQMD will continue its journey towards the goal of becoming a model of best practices. We expect that we will finalize the upgrade of our monitoring network in 2017, work more towards assisting small facilities in attaining compliance with the regulations and acknowledging facilities that have consistent compliance and sustainability projects. The staff of ARAQMD is looking forward to continuing the good work we have been doing and expanding the roles of the agency in protecting the public from the adverse effects from air pollution.