



# Cutting through the Smoke

**Why the Allegheny County Health Department  
Must Turn the Corner on Decades of  
Weak Clean Air Enforcement**



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# Executive Summary

**A**llegheny County has a long legacy of industrial air pollution. But while Pittsburgh is not the “Smoky City” of generations past, industrial air pollution still inflicts immense damage on the health of Allegheny County residents.

The Allegheny County Health Department (ACHD) is primarily responsible for protecting the people of Allegheny County from health-threatening air pollution. ACHD has been delegated authority to enforce the provisions of the federal Clean Air Act as well as local air pollution laws.

Yet for decades, some of Allegheny County’s biggest industrial facilities have continued to release excessive amounts of pollution into the air and to violate the terms of their emissions permits. Time and again, ACHD has acted slowly in response to air pollution complaints, relied on often-violated agreements negotiated with industrial facilities, failed to issue required air pollution permits on time, and failed to establish a credible threat of tough enforcement that would incentivize polluters to act more quickly to protect public health.

There are, however, signs of change. ACHD has recently stated its intention to move away from negotiated settlements, partnered with state and federal agencies and with citizens’ groups to enforce the law, and more fully used its authority to issue penalties to compel quicker action to cut emissions.

To ensure clean, healthy air for all residents of Allegheny County, ACHD must recognize the lessons of past enforcement failures and act promptly and aggressively against illegal polluters.

## **Poor air quality in Allegheny County puts the public’s health at risk.**

- In 2016, the Pittsburgh area suffered from 121 days of elevated levels of ozone “smog” or fine particulate pollution in the air.<sup>1</sup> The American Lung Association ranks the air in the Pittsburgh metro area the seventh-worst in the nation for year-round particulate pollution and 28th worst for ozone smog.<sup>2</sup> Particulate pollution in the Monongahela Valley is among the worst in the country.<sup>3</sup>
- Allegheny County is in the top 1 percent of counties nationwide for cancer risk from toxic air pollutants released by stationary point sources of emissions, such as industrial facilities, according to 2014 data from the U.S. Environmental Protection Agency (U.S. EPA).<sup>4</sup>
- The Pittsburgh metro area ranks fifth in the nation for excess mortality from exposure to ozone and particulate matter, with an estimated 232 premature deaths annually.<sup>5</sup>
- Allegheny County’s air pollution harms public health, especially the health of children, the elderly and those suffering from respiratory disease. A 2017 study found that 39 percent of school children in areas of Allegheny County near major industrial pollution sources were exposed to levels of pollution in excess of U.S. EPA guidelines.<sup>6</sup> Twenty-two percent of children in those areas had asthma – a rate nearly three times the national average.

## **Industrial polluters are a major source of the air pollution that jeopardizes the health of Allegheny County residents.**

- Industrial facilities were the biggest source of sulfur dioxide and fine particulate (PM<sub>2.5</sub>) emissions, and the second-biggest source of smog-forming nitrogen oxide emissions in Allegheny County in 2014.<sup>7</sup>
- Pollution from point sources (including industrial facilities) accounts for nearly one-third of the cancer risk posed by hazardous air pollutants in Allegheny County.<sup>8</sup>
- Industrial pollution harms public health across Allegheny County but is especially dangerous in communities near the plants themselves.
  - A 2012 study found that concentrations of coarse particulate matter (PM<sub>10</sub>) in Braddock were highest in the area immediately surrounding U.S. Steel's Edgar Thomson Plant.<sup>9</sup>
  - A 2013 study by researchers from the University of Pittsburgh identified a set of census tracts in the industry-heavy Monongahela Valley that ranked high for cancer risk from hazardous air pollutants.<sup>10</sup>
  - A 2010 study by ACHD found levels of manganese and lead in outdoor air at Highlands High School in Natrona that exceeded federal safety standards. The elevated pollution levels were correlated with operations at a nearby ATI plant.<sup>11</sup>

## **The history of seven polluting industrial facilities in Allegheny County illustrates the damage done by ACHD's lackluster approach to environmental enforcement.**

- **U.S. Steel's Clairton Coke Works** has racked up so many violations of clean air rules since 1990 that it has been the subject of more than 80 government enforcement actions and notices of violation.<sup>12</sup> Over the years, ACHD and U.S. Steel

have negotiated a series of consent orders in which U.S. Steel has pledged to make improvements at the facility and bring it into compliance with clean air laws. Those agreements, however, have often been violated, and the Clairton Coke Works remains one of the county's largest polluters, putting the health of Monongahela Valley residents at risk. A December 2018 fire that knocked out critical emission control units – the second such outage in a decade – triggered 10 exceedances of federal health standards for sulfur dioxide over a span of 14 weeks, and led ACHD to warn Mon Valley residents to limit their outdoor activity.<sup>13</sup>

- **U.S. Steel's Edgar Thomson Plant** in Braddock has violated clean air standards – especially limits on visible pollution from the plant – repeatedly over the last 40 years. Yet, despite a series of negotiated consent orders and financial penalties – and despite the public health toll of the plant's pollution on nearby neighborhoods – it has continued to exceed its emission limits, leading ACHD to finally issue a notice of violation in late 2017.<sup>14</sup>
- **ATI Flat Rolled Products** in Brackenridge (formerly Allegheny Ludlum) has been the target of at least 40 clean air enforcement actions and notices of violation since 1990, according to U.S. EPA records.<sup>15</sup> The facility was allowed to exceed permitted levels of sulfur dioxide for more than a decade and then received a mere \$50,000 penalty from ACHD, a penalty that was only issued after environmental and public health advocates announced their intention to sue to enforce the law.<sup>16</sup>
- **Harsco Metals** in Natrona processes steel slag from the neighboring ATI Flat Rolled Products plant – a process that creates dust that has coated cars and children's toys and play equipment in nearby neighborhoods. Harsco's releases of toxic metals such as chromium, manganese and lead contribute to an overall

toxic risk from air emissions that is 200 times as great as the risk posed by the typical industrial facility in Allegheny County, according to the U.S. EPA.<sup>17</sup> The dust problem continued for more than a decade after the U.S. EPA and ACHD first took enforcement action in 2007, suggesting that ACHD's enforcement strategy was ineffective in protecting the public's health.

- **Eastman Chemicals and Resins** in West Elizabeth is a major source of volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>) and hazardous air pollutants. However, ACHD has yet to issue the facility a Title V operating permit, which is required by the Clean Air Act and is a critical tool for public accountability and effective enforcement of the law. ACHD has long struggled with issuing permits to air polluters in a timely manner, a failing that was called out in a 2017 U.S. EPA evaluation, which urged ACHD to "expeditiously issue" the Title V permit to the company.<sup>18</sup>
- The **McConway & Torley** foundry in the Lawrenceville section of Pittsburgh emits toxic metals such as manganese into the air of a densely populated portion of the city. Yet the facility went for two decades without being issued necessary air pollution permits, including five years, from 2010 to 2015, in which concentrations of manganese in the air outside the facility exceeded levels that the U.S. EPA believes to be of concern to public health.<sup>19</sup>
- **Allied Waste's Imperial Landfill** in Imperial, Pa., illustrates the potential of timely enforcement to protect public health. After students and staff at a nearby elementary school began complaining during the winter of 2008-09 of odors from the landfill causing "headaches, nausea, sinus issues, throat problems and 'a feeling of being drugged,'" <sup>20</sup> ACHD and the Pennsylvania Department of Environmental Protection (PA DEP)

moved to monitor pollution at the site and took enforcement actions. Those actions led to the payment of significant penalties and required changes in how the facility handles waste to better protect public health, though air pollution concerns continue.

**In recent years, ACHD has shown signs of a more aggressive approach toward air pollution at major industrial facilities.**

- In 2017, ACHD issued a notice of violation to U.S. Steel for continued violations at the Edgar Thomson Plant.<sup>21</sup> ACHD Director Dr. Karen Hacker called the action "a strategic change in ACHD's enforcement efforts by utilizing all of our legal options, which in this case is a joint action with EPA."<sup>22</sup> The U.S. Justice Department is currently reviewing the enforcement action.
- In 2018, ACHD issued a notice of violation to Harsco and ATI requiring immediate action to control dust emissions from Harsco's facility. ATI's response to the enforcement action highlighted the shift in ACHD's enforcement strategy: "ACHD has been investigating alleged fallout particulate emissions from the Natrona Facility *for years*," the company complained. "Harsco and ATI have been cooperating in that investigation *for years*. The Order ... is inconsistent with how ACHD has approached this matter in the past."<sup>23</sup> (emphasis added)
- In 2018 and 2019, ACHD took four enforcement actions against U.S. Steel's Clairton Coke Works, which eventually led to a proposed \$2.7 million settlement that would require U.S. Steel to improve equipment and maintenance at the plant.<sup>24</sup> In 2019, ACHD took a further step by joining a federal court lawsuit filed by citizen groups against U.S. Steel in response to the excessive pollution following the December 2018 fire at Clairton Coke Works.

**To protect the health of Allegheny County residents, ACHD must fulfill its responsibility to enforce the law and hold air polluters accountable. Specifically, ACHD must:**

- **Issue timely, health-based permits** – ACHD must eliminate the backlog of unissued Title V permits and ensure that renewals of existing Title V permits happen in a timely manner. Four facilities, including three profiled in this report (ATI Flat Rolled Products, Eastman Chemicals and Resins, and Harsco Metals) have never had a Title V permit, and six others (including Clairton Coke Works and Allied Waste’s Imperial Landfill) have Title V renewals that are past due as of May 2019. Issuing permits that protect public health, and doing so promptly, is critically important to build public confidence in ACHD’s commitment to clean air.
- **Use timely, aggressive enforcement actions to hold polluters accountable** – Historically, ACHD has relied on negotiated consent orders to resolve past violations of clean air rules and compel investments in emission control technology and improved practices at industrial facilities. While this approach may lead to constructive partnerships to cut pollution, in practice it has often led to repeated violations of the terms of consent orders by polluters, followed by yet more agreements destined to be violated. Any effective approach to enforcing environmental

laws rests on the credible threat of financial penalties sufficient to eliminate any economic benefit from polluting along with tough requirements to ensure that polluters make necessary upgrades to protect public health. ACHD’s more vigorous recent approach to polluters such as U.S. Steel’s Clairton Coke Works sends a message about the importance of compliance not only to U.S. Steel but also to all other industrial facilities in Allegheny County.

- **Expand and improve air quality monitoring** – As demonstrated by the recent action against U.S. Steel’s Clairton Coke Works, data from air monitoring stations plays a critical role in identifying polluters that may be violating the law. Air monitoring in neighborhoods near industrial facilities, such as the fenceline monitoring near the McConway & Torley facility in Lawrenceville, can also help provide the public with assurance that pollution controls are working. Expanded monitoring, including support for citizen air pollution monitoring, and improved flow of information to and from the public, can help to improve enforcement and assure accountability.
- **Partner with the public and other agencies to protect Allegheny County’s air** – ACHD has partnered with citizens groups, the PA DEP, and the U.S. EPA to harness more resources to assist with enforcement. ACHD should continue those partnerships, and also create new tools to help the public understand and participate in the enforcement of air pollution laws.

**To protect the health of Allegheny County residents, ACHD must fulfill its responsibility to enforce the law and hold air polluters accountable.**



# Dirty Air Puts Allegheny County Residents' Health at Risk

Pittsburgh is no longer the “Smoky City” of generations past. But for all the work that has been done to reduce pollution in southwestern Pennsylvania in recent decades, the air in the Pittsburgh area remains among the dirtiest in the United States – putting the health of local residents at risk.

Allegheny County residents are exposed to levels of fine particulate, sulfur dioxide and ozone pollution that exceed federal health standards, as well as hazardous air pollutants that lead to an elevated risk of developing cancer over a lifetime.

Air pollution from heavy industry is a major contributor to the region’s air quality problems.

## Allegheny County’s Air Is Often Harmful to Public Health

Allegheny County residents are regularly exposed to particulates, ozone smog, airborne toxic chemicals and other pollutants at levels that threaten their health.

### Particulate Matter

Decades ago, airborne soot would make a white shirt look gray by lunchtime. Though Pittsburghers no longer need to bring a second shirt with them to work, the region continues to suffer some of the worst soot pollution in the country.

Particulates pose a variety of health threats to Allegheny County residents. Visible emissions of smoke or soot from industrial facilities are tell-tale signs of par-

ticulate pollution, but the most dangerous particulates are too small to be seen with the naked eye.

Fine particulate matter (PM<sub>2.5</sub>) is pollution made up of tiny particles that measure only a fraction the diameter of human hair. Fine particulates can cause serious health consequences and contribute to haze that mars the skies.<sup>28</sup> The small size of the particles means that they can enter the bloodstream, and contribute to elevated risk of heart attack.<sup>29</sup> Exposure to fine particulates has been linked to worsened asthma, and heightened risk of heart and lung disease.<sup>30</sup> A recent study in southwestern Pennsylvania linked a mother’s exposure to particulates during pregnancy with the development of autism in her child.<sup>31</sup>

The Pittsburgh metro area has among the highest concentrations of fine particulates in the country.<sup>32</sup> A 2019 report by the American Lung Association ranked the Pittsburgh metro area seventh-worst in the country for year-round particulate pollution, with Allegheny County receiving a failing grade for particulates from 2015 to 2017.<sup>33</sup>

Another 2019 report, by researchers affiliated with the American Thoracic Society and the New York University Marron Institute of Urban Management, found that the Pittsburgh metro area ranked fourth in the nation for excess mortality from exposure to fine particulate matter, with an estimated 184 premature deaths in the area per year.<sup>34</sup>

Particulate pollution in Allegheny County's air has also frequently exceeded federal health standards. In 2017, Allegheny County experienced 12 such exceedances, including 10 days on which those standards were exceeded at the Liberty/Clairton air pollution monitor in the Monongahela Valley.<sup>35</sup>

Current air quality standards for fine particulates are not fully protective of public health, particularly for vulnerable populations, meaning that even levels of particulates that are elevated but below the federal standard may pose a risk.<sup>36</sup> In 2016, the Pittsburgh area suffered from 97 days of elevated levels of fine particulate pollution in the air.<sup>37</sup>

Children are particularly vulnerable to particulate pollution, especially those living near industrial facilities. Exposure to small particulates has been linked to the development of asthma and worsening of asthma symptoms.<sup>38</sup> A 2017 study found that 39 percent of school children in areas near major industrial pollution sources in Allegheny County were exposed to levels of pollution in excess of U.S. EPA guidelines and 71 percent were exposed to pollution in excess of more stringent guidelines from the World Health Organization.<sup>39</sup> Nearly 22 percent of children living near those pollution sources had asthma, almost three times the national rate of asthma prevalence.<sup>40</sup>

## Ozone Smog

Ozone pollution causes a myriad of health problems, and also affects plant health and growth.<sup>41</sup> Ground-level ozone is formed by the reaction of nitrogen oxides and volatile organic compounds (VOCs) in the presence of sunlight and is the most common element in "smog."<sup>42</sup> Data from the Allegheny County Health Department (ACHD) shows that ozone exceeded current federal health standards of 0.07 parts per million on eight days in 2017 and seven days in 2016.<sup>43</sup> The current federal standard for ozone is believed by many public health advocates to be inadequate, meaning that even levels of ozone smog that comply with federal standards may still have negative health effects.<sup>44</sup> Accounting for these days of moderate pollution that

affect public health, the Pittsburgh area experienced 46 days of elevated ozone levels in 2016.<sup>45</sup>

The Pittsburgh metro area was ranked 28th out of 228 metropolitan areas nationwide for days of high ozone "smog" from 2015 to 2017, receiving a failing grade for ozone pollution from the American Lung Association.<sup>46</sup>

There are both short- and long-term health consequences of ozone exposure. In the short term, exposure can lead to respiratory distress and exacerbate lung disease, and may increase the frequency of asthma attacks. In the long term, ozone exposure can lead to the development of asthma, and potentially cause permanent lung damage and abnormal lung formation in children.<sup>47</sup>

The Pittsburgh metro area ranks 16th in the nation for excess mortality from exposure to ozone, with an estimated 48 premature deaths per year.<sup>48</sup> Together with excess levels of particulate matter, an estimated 232 residents of the Pittsburgh area die prematurely each year as a result of exposure to air pollution.<sup>49</sup>

As with particulate matter, ozone is especially damaging to vulnerable people – even at levels deemed "safe" by the U.S. EPA. Researchers at Harvard University found that a short-term increase of 0.001 part per million of ozone during the summer (1/70<sup>th</sup> of the amount of ozone in the air the U.S. EPA considers "safe") is associated with a 0.5 percent increase in daily mortality among adults over 65 years old.<sup>50</sup> A similar rise in senior deaths was found for increases in fine particulate pollution. Given Pittsburgh's aging population, Allegheny County's polluted air poses a significant threat to public health.<sup>51</sup>

## Air Toxics

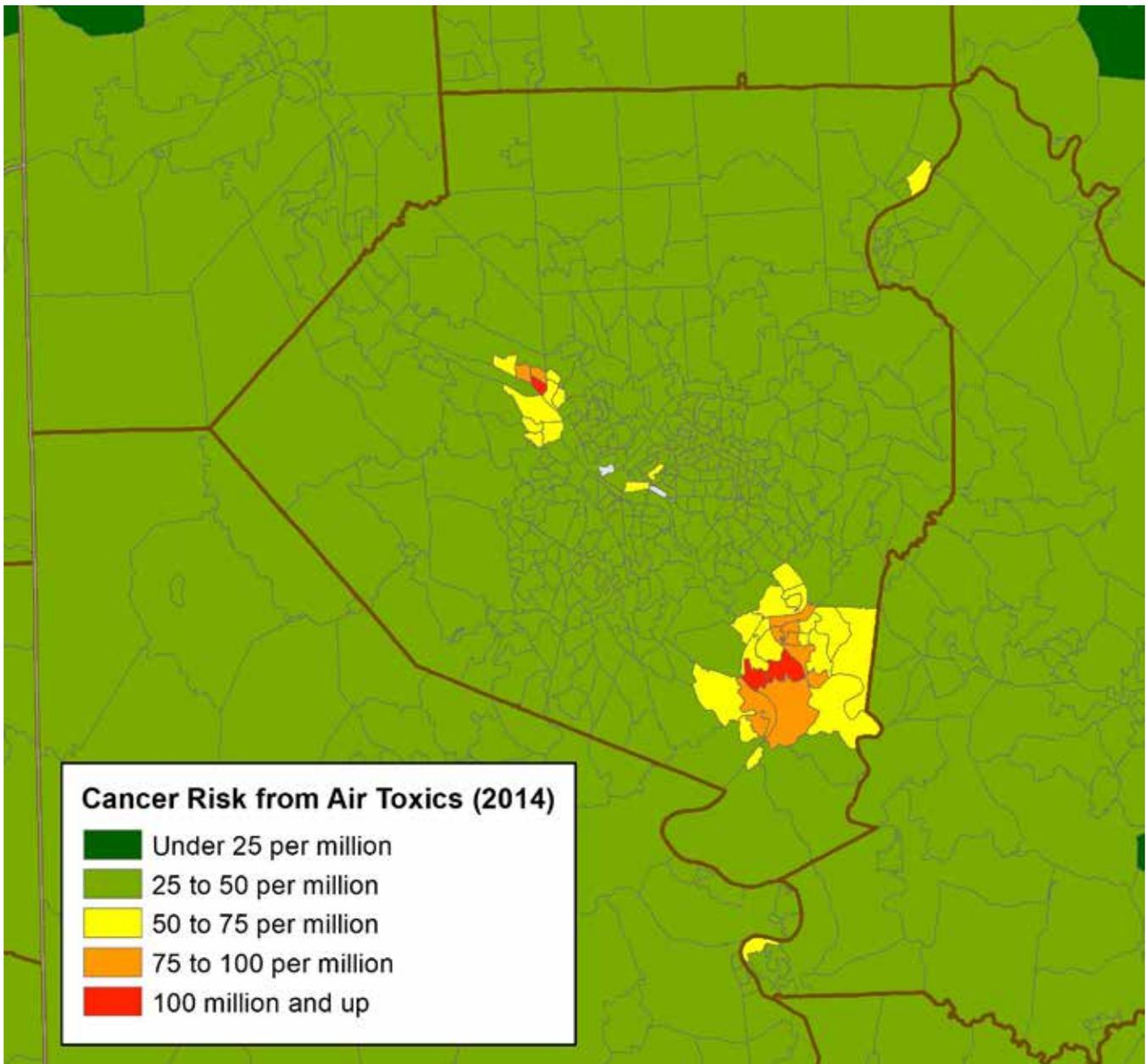
In addition to ozone and particulate pollution, the Pittsburgh area has a history of emissions of toxic metals and chemicals that harm public health. Allegheny County is in the top 1 percent of counties nationally for cancer risk from air pollution from stationary point sources (including industrial facilities), according to the U.S. EPA's 2014 National Air Toxics Assessment.<sup>52</sup>

Industrial sources in the county emit pollutants such as chromium, lead and manganese that can cause a variety of serious medical conditions, including cancer and nervous system damage.<sup>53</sup> Residents who live in and around Allegheny County were found to die from lung cancer at excessively high rates, even when accounting for higher rates of smoking in the region.<sup>54</sup>

Some areas of Allegheny County are particularly exposed to toxic substances in the air. Based on data from the U.S. EPA's 2014 National Air Toxics Assessment,

the average resident of Allegheny County faces a cancer risk from exposure to air toxics 40 times as high as the U.S. EPA's health benchmark.<sup>55</sup> In some census tracts in Allegheny County, particularly in the Monongahela Valley, the risk is up to 100 times as high as the U.S. EPA benchmark. The elevated risk in the Ohio Valley may have been due to the former Shenango Coke Works on Neville Island, which closed in 2015, bringing an improvement of air quality in the area. (See Figure 1 and "Shenango Coke Works Closure Shows Impact of Industrial Pollution on Public Health," page 13.)

**Figure 1. Cancer Risk from Toxic Air Pollutants, Allegheny County, 2014<sup>56</sup>**



## Odors and Wood Smoke

While much of the focus of air quality regulation is on pollution problems with well-known health effects, Allegheny County residents also have a right to live their lives without being subjected to foul odors from industrial activities or other forms of air pollution, such as smoke from burning wood and trash. Odors themselves can trigger short-term health effects such as headaches, nausea, and ear, nose and throat irritation.<sup>57</sup>

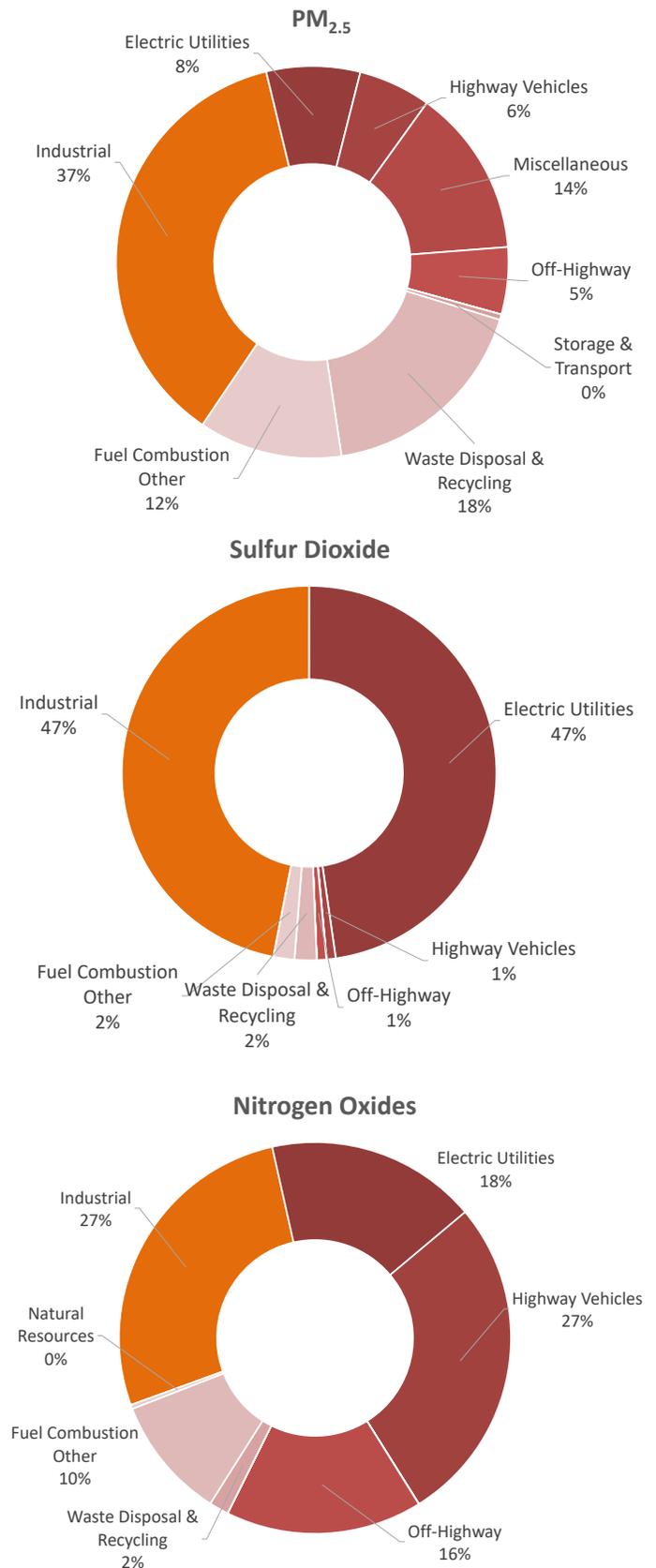
Allegheny County's Article XXI regulations state clearly that "[n]o person shall operate, or allow to be operated, any source in such manner that emissions of malodorous matter from such source are perceptible beyond the property line of such source."<sup>58</sup> However, foul odors are a regular occurrence in Allegheny County. The "Smell Pittsburgh" smartphone app – created by a team from Carnegie Mellon University to enable residents to instantly log odor complaints – has received more than 27,000 complaints since June 2016, many of them regarding odors from industrial facilities.<sup>59</sup>

Similarly, smoke from the burning of wood contains toxic air contaminants and particulates, which pose a threat to public health.<sup>60</sup> Allegheny County's regulations on open burning are intended to protect the public from these threats.

## Industrial Activity Is a Major Contributor to Air Pollution in Allegheny County

Industrial activity is a major source of air pollution in Allegheny County. In 2014, industrial facilities were the largest source of sulfur dioxide and fine particulate emissions in the county, and the second-largest source of nitrogen oxide emissions that contribute to the formation of smog.<sup>61</sup> Industrial facilities are also the largest single contributor to the elevated risk of cancer posed by toxic air pollutants in Allegheny County.<sup>62</sup>

Figure 2, a-c. Sources of Air Pollutant Emissions in Allegheny County<sup>63</sup>



Improving air quality in southwestern Pennsylvania requires cleaning up industrial polluters – especially the small number of major industrial facilities that are responsible for a disproportionate share of the county’s health-threatening air pollution.

### **A Few Industrial Facilities Produce Vast Amounts of Harmful Air Pollutants**

Among industrial facilities in Allegheny County, a small handful of facilities are responsible for a large share of pollution. Just 10 large facilities produce 90 percent of the emissions of so-called “criteria pollutants” (ground-level ozone, particulate matter, carbon monoxide, lead, sulfur dioxide and nitrogen dioxide) from industrial pollution sources in the county.<sup>64</sup>

Two facilities stand out as the most significant point source emitters of criteria pollutants in Allegheny County: U.S. Steel Clairton Coke Works and the Cheswick Power Station. Clairton Coke Works was responsible for 40.4 percent of criteria pollutants from major

industrial pollution sources in 2017, and the Cheswick Power Station accounted for 18.1 percent.<sup>65</sup>

In 2017, industrial facilities in Allegheny County reported releasing nearly 1.5 million pounds of toxic substances to the air, according to the U.S. EPA’s Toxics Release Inventory.<sup>66</sup> Four-fifths of those reported releases came from just four facilities: U.S. Steel’s Clairton Coke Works, Edgar Thomson Plant and Irvin Plant, along with the Cheswick Power Station.<sup>67</sup>

While large industrial polluters produce a significant amount of Allegheny County’s air pollution, there are other important sources of pollution as well. The transportation sector accounts for roughly half of the county’s total nitrogen oxide emissions and one third of VOC emissions, and is also a major source of carbon monoxide.<sup>68</sup> So-called “area sources,” which include small industrial facilities, gas stations, and buildings, are also significant sources of particulate matter and VOC emissions.<sup>69</sup>

## **Shenango Coke Works Closure Shows Impact of Industrial Pollution on Public Health**

**T**he Shenango coke works on Neville Island was a major source of pollution affecting communities on both sides of the Ohio River before its closure in 2016. The closure of the plant has led to cleaner air and healthier communities – an indicator of the dramatic benefits that can result when pollution from industrial facilities is reduced.

Shenango ranked ninth among industrial facilities in Allegheny County for the toxic risk posed by its air emissions in 2013.<sup>70</sup> The facility was also a significant source of sulfur dioxide, nitrogen oxides, volatile organic compounds and other air emissions.<sup>71</sup>

The closure of the plant corresponded with health improvements in the communities most affected by emissions from Shenango. Research by pediatrician Dr. Deborah Gentile found a drop in asthma rates in communities on the north side of the Ohio River following the Shenango closure.<sup>72</sup> In addition, data collected by the ACHD showed an 11 percent reduction in airborne particulates in the year following the plant’s closure in communities near the plant, along with a 37 percent drop in benzene. Those reductions in pollution corresponded with a 38 percent reduction in hospitalizations for asthma and chronic obstructive pulmonary disease and a 27 percent reduction in emergency room visits for cardiovascular disease.<sup>73</sup>

Air pollution downwind of major industrial facilities contributes to a host of health problems. Measures to limit pollution – including strong enforcement of emissions permits – can make an immediate and meaningful impact on public health.

# Protecting the Public from Air Pollution: The Role of the Allegheny County Health Department

**T**he Allegheny County Health Department (ACHD) is primarily responsible for enforcing the federal Clean Air Act and state and local air pollution laws in Allegheny County. As a result, ACHD's approach to enforcing the law has a direct impact on the behavior of polluting industries and the health of Allegheny County residents.

The Clean Air Act envisions a partnership between federal, state and, in some cases, local officials in cleaning up the nation's air and protecting public health. The U.S. EPA sets national standards for air quality designed to protect public health. States play a leading role in determining how to meet those standards, in monitoring air quality, and in implementing the law on the ground, with the U.S. EPA retaining oversight and enforcement authority in cases where states fall short.

In some cases, an approved local agency can fulfill the role of the state in enforcing the law. In Allegheny County, ACHD is that local agency.

## The Clean Air Act Limits Industrial Pollution

The federal Clean Air Act includes numerous provisions designed to clean up America's air and limit the impact of industrial facilities on public health.

## Air Quality Standards and State Implementation Plans

The Clean Air Act requires the U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants that threaten the environment and public health. The U.S. EPA has set standards for six such air pollutants (particulate matter, ozone, carbon monoxide, sulfur dioxide, nitrogen oxides and lead), known as "criteria" pollutants.<sup>74</sup>

States are charged with developing their own plans – called State Implementation Plans (SIPs) – to reduce pollution in order to come into or remain in compliance with NAAQS.<sup>75</sup> These plans generally include requirements for air quality monitoring, pollutant control measures, emissions inventories and enforcement mechanisms.

## Standards for Stationary Emissions Sources

In addition to addressing existing air pollution problems, the Clean Air Act establishes minimum standards that stationary sources of air pollution – such as factories, industrial boilers and power plants – must meet. A primary set of regulations are the Clean Air Act's New Source Performance Standards (NSPS), which apply to key categories of stationary sources of air pollution that are either newly constructed or that have under-

gone significant upgrades or modifications.<sup>76</sup> Each type of operation, such as a petroleum refinery or steel plant, has its own set of specific NSPS regulations.<sup>77</sup>

Stationary sources must undergo New Source Review (NSR) when they apply for a permit to construct, modify or add to their facility, to determine whether the source will be subject to the more stringent limitations applicable to newer facilities. States develop their own NSR requirements, which are approved by the U.S. EPA in the SIP.<sup>78</sup>

## Hazardous Air Pollutants

The Clean Air Act also sets out National Emission Standards for Hazardous Air Pollutants (NESHAP) for stationary source emissions of 187 toxic air pollutants, such as coke oven gas and known carcinogens such as benzene.<sup>79</sup> The NESHAPs set technology-based standards that require use of the maximum achievable control technology (MACT) to limit emissions.

While the federal Clean Air Act provides a national backstop to protect air quality, state and local governments have the ability to adopt standards for industrial polluters that are stronger than those established by the federal government.<sup>80</sup>

## Permitting Is Central to Effective Enforcement

Clean air permits lay out the requirements that facilities must meet in order to protect air quality. Industrial facilities in Pennsylvania must obtain “installation permits” when they install or modify equipment, and major sources of pollution must obtain “operating permits” under Title V of the Clean Air Act.<sup>81</sup> “Major sources” are facilities that emit or have the potential to emit air pollutants at or above a certain threshold – typically 100 tons/year – although there are exceptions under certain circumstances and for sources of hazardous air pollutants.<sup>82</sup>

Title V operating permits integrate the conditions of all the existing permits into one permit that governs a facility and is designed to ensure compliance with

the Clean Air Act and local regulations.<sup>83</sup> Each facility’s Title V permit typically includes the source’s requirements for inspections, monitoring, compliance certification, fee payment and reporting.<sup>84</sup>

ACHD is responsible for issuing Title V permits in Allegheny County, but the U.S. EPA itself can issue Title V permits in certain circumstances, including when it objects to a permit issued by a state or local entity and that entity does not correct the permit.<sup>85</sup> The permitting process involves a public comment period and review by the U.S. EPA. The U.S. EPA maintains an oversight role that includes periodic evaluations of how well the state or agency is handling its permitting responsibilities. Title V permits are intended to be renewed every five years, but facilities can continue to operate under expired permits until their existing permit is renewed, so long as they have submitted a timely application for renewal.

Permits issued under Title V are critical tools in enforcement of clean air standards and in holding facilities accountable to their responsibility to operate in ways that are protective of public health. Facilities with Title V permits must file compliance reports annually or semi-annually, providing a regular check on their performance.<sup>86</sup> And because Title V permits bring all of a facility’s requirements together in one place, they are an important tool for residents, citizens’ groups and government agencies to use in enforcing the law.

## The Role of the Allegheny County Health Department

The Pennsylvania Department of Environmental Protection (PA DEP) is responsible for air quality regulation and enforcement in Pennsylvania, except in Allegheny County and Philadelphia, where local agencies have those responsibilities.<sup>87</sup> Even in Allegheny County, however, PA DEP has oversight over the local agency’s handling of its monitoring, regulatory and enforcement duties, much as the U.S. EPA has oversight responsibility over the PA DEP.<sup>88</sup>

Allegheny County's history of air pollution regulation dates back to well before the adoption of the federal Clean Air Act. In 1949, Allegheny County adopted a smoke control ordinance (eight years after Pittsburgh did the same) and established the Bureau of Air Pollution Control to enforce it.<sup>89</sup> In 1957, the county took over full responsibility for air pollution control from the city of Pittsburgh.

Allegheny County's rules and regulations are set forth in Article XXI, which is incorporated into the Pennsylvania SIP.<sup>90</sup> Article XXI lays out requirements for emissions reporting, testing, monitoring and enforcement, and also sets Pollutant Emission Standards, which establish emission-specific regulations for sources of sulfur oxides, odor, particulates and visible emissions, as well as for sources using certain materials or equipment.<sup>91</sup> The regulations further include activity-specific Source Emission and Operating Standards, which cover specific emissions sources.<sup>92</sup> For example, one of the provisions that applies specifically to major sources of nitrogen oxides and volatile organic compounds requires the implementation of U.S. EPA-approved Reasonably Available Control Technology.<sup>93</sup>

Two of ACHD's key responsibilities are issuing operating permits to all major stationary sources of pollution in the county and requiring that they install and operate the necessary pollution control equipment to meet emissions standards.<sup>94</sup>

## The Allegheny County Health Department Has Numerous Enforcement Tools

Industrial facilities in Allegheny County have a responsibility to follow the Clean Air Act and Article XXI. They must install and operate required air pollution control equipment and meet emissions limits, as laid out in their air quality permits and county regulations.<sup>95</sup> They must also allow ACHD to conduct inspections and carry out its enforcement responsibilities, and ensure that any applications, reports or

other documentation that they submit to the department are true and accurate.<sup>96</sup>

ACHD has a number of enforcement tools that it can employ to ensure that sources of air pollution comply with all local, state and federal regulations.<sup>97</sup> ACHD identifies violators through inspections, monitoring and required reporting by the facilities, and can pursue enforcement actions for any violation or form of noncompliance.<sup>98</sup>

The enforcement tools available to the department include the power to revoke a permit, issue an enforcement order directing a source to come into compliance with its permit or take other actions to protect public health, initiate criminal proceedings, and assess civil penalties. Grounds for permit revocation include a facility using improper or ineffective control equipment or causing emissions that prevent the attainment of NAAQS anywhere in Pennsylvania.<sup>99</sup> Additionally, while some exemptions apply, a facility that is planning to install, replace or remodel its facility or its pollution control equipment can have its permit application denied if it has committed a violation in the previous 18 months.<sup>100</sup>

ACHD can also bring a petition from the department or Board of Health to the county executive requesting that the district attorney initiate appropriate criminal action, or a petition requesting that the U.S. EPA and the U.S. Department of Justice and/or the Pennsylvania Department of Environmental Protection and Commonwealth Attorney General pursue appropriate civil or criminal action.<sup>101</sup> The department also has the authority to issue an enforcement order to a source operating in violation of Article XXI requiring immediate shutdown of the entire operation or a specific part of it. Failure to comply with an enforcement order can be met with penalties and further enforcement actions.<sup>102</sup>

Financial penalties can be a particularly powerful deterrent to violating clean air rules. ACHD revised its civil penalty policy in 2018 to allow for steeper

penalties against air polluters. A health department spokesperson, quoted in *Public Source*, claimed that if the new policy had been in place in 2016, the penalties assessed to polluters in that year would have been 60 percent higher.<sup>103</sup> According to the department, more penalties were assessed in the 16-month period from the beginning of 2018 to the end of April 2019 (\$3.4 million) than in the 36-month period from 2015 to 2017. Recent fines include the largest fine in ACHD history, to U.S. Steel's Clairton Coke Works.<sup>104</sup>

While the U.S. EPA has delegated enforcement responsibility to many state and local agencies, it retains the power to take action against violators of a federally approved SIP, as well as against the states themselves.<sup>105</sup> For example, in April 2018, the U.S. EPA issued warnings to Pennsylvania, California and Idaho for failing to include required elements in their revised SIPs for soot pollution. Allegheny County was one of three Pennsylvania counties that had failed to fulfill the requirement.<sup>106</sup> If any state fails to submit an acceptable plan within 18 months of the warning, it could face sanctions or be compelled to comply with a federal implementation plan that addresses the

SIP's shortcomings.<sup>107</sup> The U.S. EPA can also revoke the delegation of authority to states (or to local entities such as ACHD) to implement the Clean Air Act.

The Clean Air Act and local regulations establish a framework for protecting the public from the adverse health effects of industrial air pollution. They also give enforcement agencies, like the Allegheny County Health Department, the authority to take a variety of actions to compel polluters to comply with the law.

Often, however, ACHD has failed to use the full authority it possesses to protect the public from industrial pollution, relying on negotiated consent orders that failed to hold polluters fully accountable, failing to issue required air pollution permits on time, and missing opportunities to establish pollution limits that are protective of the public's health. The following seven case studies demonstrate the consequences of those failures for public health and the environment – and demonstrate the need for an aggressive approach to clean air enforcement in Allegheny County.

# Missed Opportunities: How Clean Air Enforcement Has Failed at Seven Polluting Facilities in Allegheny County

**T**he Allegheny County Health Department is responsible for using the authority granted to it under the federal Clean Air Act and state and local regulations to protect the health of county residents from air pollution. Too often in its history, however, ACHD has failed or refused to use that authority to the fullest extent possible, choosing to negotiate with polluters rather than deter violations of the law through strict enforcement and significant penalties. ACHD often continued this strategy even after facilities had repeatedly violated the terms of previous agreements.

In addition, the department often failed in its basic responsibility to issue air pollution permits that were protective of public health, and to issue these permits in a timely manner.

The ensuing seven case studies document specific past failures of ACHD's approach to enforcement, as well as the recent apparent shift toward a more aggressive enforcement strategy.

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U.S. Steel's Clairton Coke Works

## U.S. Steel Clairton Coke Works, Clairton

***One of the largest sources of toxic air pollution in Allegheny County escaped accountability for decades, as one negotiated agreement after another failed to bring the facility into compliance with pollution rules. Now, more than 80 formal and informal enforcement actions later and with threats to public health continuing from the facility's emissions, ACHD officials are signaling a tougher approach.***

U.S. Steel's Clairton Coke Works is part of an integrated steel manufacturing complex along the Monongahela River that includes the Edgar Thomson Plant in Braddock (see page 24) and the Irvin Plant in West Mifflin.

Emissions from Clairton Coke Works contribute to the Monongahela Valley's air pollution problems, which are among the worst in the United States and which threaten the health of thousands of nearby residents. Despite years of violations of clean air rules at the facility, the Allegheny County Health Department worked cooperatively with U.S. Steel, arriving at a series of consent orders that failed to bring the facility into compliance with the law and included penalties far too small to gain the attention of a multinational corporation with net earnings of more than \$1 billion a year.<sup>108</sup> More recently, however, ACHD has taken a stronger regulatory stand, creating hope that long-suffering Mon Valley residents will finally get the cleaner air they deserve.

Coke is an important element in steelmaking, providing fuel for blast furnaces and playing an important role in the chemical reactions that create steel. Coke production has taken place in Clairton for a century.<sup>109</sup> Today, the Clairton Coke Works is the largest coke producer in North America, processing 16,000 tons of coal per day into 10,000 tons of coke, as of 2012.<sup>110</sup> In addition to producing coke, the plant produces by-products of value in the marketplace.<sup>111</sup>

Coke production is an inherently dirty activity, and the Clairton Coke Works is one of the largest air polluters in Allegheny County. In 2017, the facility was responsible for 51 percent of all carbon monoxide emissions, 51 percent of all nitrogen oxide emissions, 61 percent of all particulate (PM<sub>10</sub>) emissions, 25 percent of all sulfur dioxide emissions, and 90 percent of all hydrogen sulfide emissions from Allegheny County's largest industrial point sources of pollution.<sup>112</sup>

The process of producing coke involves heating coal to temperatures high enough to drive off impurities, which are released in the form of "coke oven gas" that contains tars, oils, hydrogen sulfide, volatile organic compounds, ammonia, particulate matter and other pollutants.<sup>113</sup> Coke oven gas from the Clairton Coke Works is supposed to be routed through pollution control devices so that the cleaned gas can be legally used as fuel for the coke ovens and other production processes at the plant, as well as for production units at the company's operations at the nearby Edgar Thomson and Irvin plants (which are connected by miles of piping). The particulates and toxic substances generated by the coke production process can harm public health if they escape into the air.<sup>114</sup>

Although emissions from the facility have declined significantly since 1996, air quality in the region surrounding the Clairton Works remains poor and the Clairton Coke Works has racked up a string of Clean Air Act violations in recent decades.<sup>115</sup> On at least two occasions, major mishaps interrupted operation of the plant's desulfurization system – a critical system for controlling emissions – for extended periods of time, leading to periods of intense pollution that have posed an elevated danger to public health.

U.S. EPA records show 85 enforcement actions and notices of violation against the facility from the beginning of 1990 to the spring of 2019 – an average of three per year.<sup>116</sup> Until recently, when the department began issuing regular, quarterly fines to U.S. Steel, ACHD primarily took a cooperative approach to its dealings with the company, working with

U.S. Steel to negotiate a series of consent orders to resolve previous violations of the law and leverage improvements at the plant.

In June 2007, for example, the steelmaker and ACHD entered into a consent order to address emissions from one of the company's coke batteries. That order resulted in a \$395,900 penalty.<sup>117</sup> The following year, another consent order resulted in U.S. Steel's commitment to shut down three coke batteries by 2013 and three others by 2015, take a series of other steps to limit pollution at the Clairton Coke Works and at Braddock's Edgar Thomson Plant (see page 24), and pay a \$301,800 civil penalty.<sup>118</sup>

In 2009, an explosion resulted in the "catastrophic failure" of its desulfurization plant, as well as the death of a worker.<sup>119</sup> The explosion knocked the desulfurization plant out of operation for four months, causing the Clairton Coke Works, the Edgar Thomson Plant and the Irvin Plant to exceed limits on sulfur pollution.<sup>120</sup> U.S. Steel chose to operate the plants without these required pollution controls, exposing residents to dangerous pollution.<sup>121</sup> The incident led to a penalty of \$61,275 in addition to any penalties assessed resulting from violations of previous agreements.<sup>122</sup>

In 2010, ACHD and U.S. Steel entered into another consent order, in which U.S. Steel revoked its earlier promise to retire three of the coke batteries. The new order gave the steelmaker three years to meet emissions limits at those batteries, while allowing the steelmaker until late 2012 and late 2014 to meet emission limits at two other batteries.<sup>123</sup> The following year, ACHD and U.S. Steel revised the agreement yet again, acknowledging continued violations of air quality rules at the plant.<sup>124</sup>

In August 2014, a new consent order required U.S. Steel to pay a \$300,000 penalty and take action to address violations from new equipment installed just two years earlier.<sup>125</sup> The agreement was not announced to the public until disclosed in a *Pittsburgh Post-Gazette* story a month later.

Throughout this period, as ACHD negotiated settlement after settlement with U.S. Steel and the company continued to fail to reduce its emissions, residents in the Monongahela Valley and beyond continued to be harmed by breathing unhealthy levels of air pollution.

Data from the air quality monitor in Liberty Borough, which is located across the Monongahela River from Clairton, illustrates the threat to human health. Every year from 2001 to 2017, the Liberty monitor registered multiple short-term exceedances of health standards for fine particulate matter (PM<sub>2.5</sub>). In 2017, the monitor registered 10 such exceedances. Liberty has also seen exceedances of sulfur dioxide health standards since at least 2010, with 18 such exceedances in 2017, the most since 2012.<sup>126</sup> (Levels of fine particulates measured at the monitor were lower than annual federal limits during 2018.)<sup>127</sup>

A 2019 report by Clean Water Action documents that the Monongahela Valley has experienced hundreds of exceedances of health-based air quality standards since 2006, accounting for 91 percent of all such exceedances in Allegheny County during that period. The report also found that the Mon Valley regularly has the worst air quality in the Commonwealth of Pennsylvania.<sup>128</sup> In 2017, Liberty recorded the highest level of fine particulate pollution of any air quality monitor east of the Rocky Mountains.<sup>129</sup> And a 2012 analysis by the University of Pittsburgh's Center for Healthy Environments and Communities (CHEC) found that the Clairton/Liberty area experienced some of the worst particulate pollution in the entire United States.<sup>130</sup>

The Mon Valley's air quality problems, exacerbated by emissions from the Clairton Works, have dire consequences for public health. The U.S. EPA's 2014 National Air Toxics Assessment estimates that residents of some neighborhoods near the Clairton Works are exposed to toxic air pollutants sufficient to pose a risk of contracting cancer over a lifetime that is 100 times the U.S. EPA's health risk benchmark

and several times as great as the risk faced by other residents of Allegheny County.<sup>131</sup> (See page 11.)

Additional research in the city of Clairton by local pediatrician Dr. Deborah Gentile and her team found that students at Clairton Elementary School had asthma at nearly twice the rate of students in Pennsylvania as a whole.<sup>132</sup> Nearly two-thirds of those students (60 percent) were exposed to small particulate pollution at levels higher than those recommended by the World Health Organization to limit premature mortality.<sup>133</sup> In 2019, Dr. Gentile found that children with asthma in Clairton experienced more severe symptoms in the wake of a fire at the plant that knocked out pollution controls and led to elevated emissions.<sup>134</sup>

The continued health risks posed by pollution from the Clairton Works – and ACHD’s continued failure to bring U.S. Steel into compliance with the law – led the environmental group PennFuture to file a notice of intent to sue the company in January 2016. The letter documented approximately 6,700 violations of the terms of U.S. Steel’s emissions permits between 2012 and 2015.<sup>135</sup> In March 2016, ACHD and U.S. Steel entered into yet another consent order, covering violations over the previous seven years. The agreement gave U.S. Steel an additional three years before it had to comply with the limits on visible pollution in its permit for its coke batteries, while requiring other changes at the plant. It also issued an additional penalty of \$25,000.<sup>136</sup> The consent agreement was met with skepticism by environmental advocates, who pointed to U.S. Steel’s serial violations of previous agreements.<sup>137</sup>

In 2018, however, ACHD’s approach began to change. In June 2018, ACHD issued an enforcement order that was candid in its assessment of U.S. Steel’s failure to bring emissions from the plant into line with the law. “Although the 2016 Consent Decree was intended to provide an avenue for U.S. Steel to lower its emission profile,” the order stated, “it continues to experience ever-increasing visible emissions and unexplained

exceedances.” The order documented a deteriorating rate of compliance at the plant. “From 2014 to 2017, the Clairton Coke Works facility-wide compliance percentage has gone from 94.4% to 84.0% and is 75% as of April 2018.”<sup>138</sup>

The order also detailed a shocking pattern of actions by the plant’s employees including:

“U.S. Steel employees have engaged in a practice wherein an employee will walk a few paces in advance of inspectors and apply a mud-like mixture to emission points in such a manner as to obscure the emission.”

“U.S. Steel employees have operated coke oven door removal machines in such a manner so as to obscure ACHD emission observations ...;”

“ACHD inspectors have observed partial pushing of coke from ovens to avoid the potential violations otherwise associated with a complete pushing of coke.”<sup>139</sup>

Health Department officials linked U.S. Steel’s violations with worsening air quality in the vicinity. U.S. Steel’s violations “had a direct impact on the nearby Liberty Monitor, which has begun to measure increasing levels of fine particulate matter,” said ACHD Director Dr. Karen Hacker, quoted in the *Pittsburgh Tribune-Review*.<sup>140</sup>

The enforcement order carried a penalty of \$1 million.<sup>141</sup> Public health advocates welcomed the new, stronger approach to enforcement, while noting that it was long overdue. “We are finally seeing an enforcement action that is beginning to approach the serious nature of pollution that is being caused by this facility,” said Jacquelyn Bonomo, president and CEO of PennFuture, quoted in *NextPittsburgh*.<sup>142</sup>

In U.S. Steel’s appeal of the enforcement action, the company highlighted ACHD’s change in its approach to enforcement:

“ACHD and U.S. Steel have historically met on a regular basis and engaged in a collaborative process that has resulted in significant environmental improvements when needed. Earlier this year, ACHD changed course and, without any notice, issued the Enforcement Order, which includes one of the largest penalties ever imposed by ACHD ...”<sup>143</sup>

ACHD continued its recent efforts to hold U.S. Steel accountable for its pollution by issuing further enforcement orders, including \$614,000 penalty for violations committed in the second quarter of 2018, a \$708,000 penalty for violations committed during the second half of 2018, and a \$338,000 penalty for violations in the first quarter of 2019.<sup>144</sup> U.S. Steel’s appeals of these enforcement orders were tentatively resolved in a proposed June 2019 settlement that would require the company to pay a total of \$2.7 million in penalties, make equipment upgrades and improve training for workers.<sup>145</sup>

On December 24, 2018, a fire at the Clairton Coke Works knocked out the plant’s desulfurization unit and other air pollution controls, causing a surge in air pollution. Ten exceedances of federal health standards for sulfur dioxide occurred during the 14 weeks that the desulfurization unit was offline.<sup>146</sup> Nearby pollution monitors also registered 15 exceedances of federal health standards for hydrogen sulfide.<sup>147</sup> Two weeks after the incident, Allegheny County officials issued a health warning to those living in the area – especially those with “existing respiratory and/or cardiovascular conditions, children and the elderly” – urging them to limit their outdoor activity.<sup>148</sup>

U.S. Steel continued to operate the plant despite the failure of its emission control equipment and elevated emissions levels from the facility. The company claimed it was trying to reduce the impact of its pollution on public health through operational changes, but those measures mainly changed the sources from

which the increased emissions were released.<sup>149</sup> With pollution levels continuing to spike in early February 2019, an ACHD review of emissions data revealed that U.S. Steel’s response to the fire at Clairton Works had caused a dramatic increase in sulfur dioxide emissions at its other Mon Valley facilities.<sup>150</sup>

According to ACHD’s enforcement order: “U.S. Steel’s calculations indicate that on January 29, 2019, the flaring of coke oven gas which took place at the Irvin facility and which was intended to dilute the emission of SO<sub>2</sub>, in fact, pushed approximately **20 tons of SO<sub>2</sub> into the atmosphere.**” (emphasis in the original)<sup>151</sup>

In February 2019, PennEnvironment and the Clean Air Council announced their intent to sue U.S. Steel under the Clean Air Act.<sup>152</sup> And on April 29, 2019, those organizations, represented by attorneys from the National Environmental Law Center, filed a citizen enforcement suit against U.S. Steel for violations of the Clean Air Act committed following the fire, including exceedances of limits for sulfur dioxide at the Clairton Works and the Edgar Thomson and Irvin plants.<sup>153</sup>

In an unusual step, the Health Department filed a formal motion in federal court to join in the citizen suit against the company, a motion that was granted in June 2019.<sup>154</sup> A press release announcing the motion stated the following:

Joining this action will ensure the strongest case possible is brought against U.S. Steel. After reviewing the initial filing, our legal counsel determined that collaborating with the citizens’ groups would increase the resources available to the department and allow for the best possible outcome of our enforcement action for public health and impacted residents.<sup>155</sup>

Incredibly, on June 17, 2019, another fire at the Clairton Coke Works knocked out the plant’s desulfurization unit yet again. This time, the outage was

short, lasting less than a day.<sup>156</sup> Within hours of the event, the ACHD issued an emergency order requiring the plant to “immediately cease all coke-making operations” if repairs were not made within 20 days – a change in approach from the department’s delayed response to the December 2018 fire.<sup>157</sup> (See sidebar).

It is unclear whether ACHD’s newfound aggressiveness in bringing an end to the Clairton Coke Works’ long-time threatening of residents’ health will succeed where the previous strategy of collaboration had failed. However, in one signal that U.S. Steel may be considering a new strategy, the company announced in May 2019 that it planned to invest more than \$1 billion in its facilities in the Mon Valley, including the construction of a cogeneration power facility that will use coke oven gas from the Clairton Works to generate electricity to power its facilities in the Mon Valley.<sup>158</sup> The company claims that the updates at the plant will cut particulate matter emissions by 60 percent, sulfur dioxide emissions by 50 percent, and nitrogen oxide emissions by 80 percent.<sup>159</sup> The new facilities are expected to be completed in 2022.

While the promised new investment is a possible sign of hope, U.S. Steel has made similar promises before, including its rescinded promise to replace three aging coke batteries at Clairton with more modern equipment.<sup>160</sup> Additionally, the new proposal would do little to address the core problem at the facility: old and leaky equipment being used for an inherently dirty process.

U.S. Steel’s decades-long history of failed promises, and the fact that coke manufacturing is inherently dirty, mean that continued vigilance will be necessary on the part of ACHD to protect the health and welfare of Mon Valley residents.

## Three Fires, Three Strategies for Enforcement

Three times in the last decade, key pollution controls at the Clairton Coke Works have been knocked offline, and in each case ACHD took a different enforcement strategy, illustrating the department’s evolution toward tougher, more rapid actions to hold polluters accountable.



**September 2009:** U.S. Steel continues to run plant with little consequence. Is assessed \$61,275 fine.



**December 2018:** ACHD is initially slow to respond, choosing not to issue an emergency order. Takes enforcement action two months after initial fire, following numerous exceedances of federal health standards for air pollution. Eventually joins citizen enforcement lawsuit against U.S. Steel to “ensure the strongest case possible is brought against U.S. Steel.”



**June 2019:** Issues emergency order within hours of incident giving the company a maximum of 20 days to bring pollution controls back online or be forced to idle the plant. Emission controls are restored within 24 hours.



U.S. Steel  
Edgar  
Thomson  
Plant

## U.S. Steel Edgar Thomson Plant, Braddock

***The last traditional steel mill in Allegheny County has been jeopardizing the health of its neighbors for decades. A series of negotiated agreements with U.S. Steel has failed to bring the plant into compliance with the law.***

U.S. Steel's Edgar Thomson Plant in Braddock has a place in the history of the steel industry. It was Andrew Carnegie's first steel mill and, today, it is a central part of the last integrated steelmaking complex in the Monongahela Valley.

For residents living near the plant, however, the Edgar Thomson Plant has been a consistent source of health-threatening pollution. For four decades, county, state and federal officials have attempted to rein in pollution from the plant and U.S. Steel's other facilities in the Mon Valley and bring them into compliance with the Clean Air Act. Yet, today, the plant continues to put residents of Braddock and neighboring communities at risk.

U.S. Steel's history of clean air violations dates back generations. In 1979, the U.S. EPA filed suit against U.S. Steel over air pollution at the company's Mon Valley facilities, eventually resulting in a consent order that included PA DEP and ACHD. According to a 1988 U.S. EPA report, the intent of the agreement was to "bring nine of the company's western Pennsylvania plants into compliance with air and water pollution regulations by the end of 1982."<sup>161</sup>

That did not happen, as compliance problems at the plant and U.S. Steel's other Mon Valley facilities continued for decades. In 1991, the U.S. EPA filed suit against the company again, alleging violations of the Clean Air Act and the company's previous agreements.<sup>162</sup> The suit resulted in a 1993 consent order that came with a \$1.8 million penalty and a pledge from U.S. Steel to make improvements at the Clairton Coke Works and Edgar Thomson Plant to bring them into compliance with emissions limits.<sup>163</sup> In 1994, the U.S. EPA took action against the company for alleged violations of nitrogen oxide standards at Clairton and Edgar Thomson, resulting in another consent

order, which required U.S. Steel to install emissions monitoring equipment for nitrogen oxides and pay a \$125,000 penalty.<sup>164</sup>

Violations of limits on visible pollution that occurred during 1996 and 1997 led to a 1999 consent order that included a \$550,000 penalty.<sup>165</sup> U.S. EPA records show continued violations of air pollution rules at Edgar Thomson leading to formal enforcement actions in 2004 and 2005.<sup>166</sup>

In 2008, U.S. Steel entered into another consent order with ACHD over violations at Clairton and the Edgar Thomson Plant.<sup>167</sup> In the case of Edgar Thomson, ACHD detected likely violations of limits on visible pollution from the facility in 2004 and found that U.S. Steel could not certify that the facility was in compliance with the law.<sup>168</sup>

In 2009, the failure of the desulfurization plant at the Clairton Coke Works (see page 20), led to a spike in sulfur emissions from the Edgar Thomson Plant and the Irvin Plant. The four-month outage led to a \$61,725 settlement between ACHD and U.S. Steel, not counting violations of air pollution standards for visible pollution that were governed by other consent agreements.<sup>169</sup>

Decades of negotiated settlements with U.S. Steel did not remove the dangers posed by the Edgar Thomson Plant to Braddock or surrounding communities, with certain problems at the plant – such as exceedance of limits on visible pollution – recurring at frequent intervals over the years. Since 1990, the plant has been the target of 12 formal and informal enforcement actions, according to U.S. EPA records.<sup>170</sup> In addition, it took until the early 2010s for the plant to receive its first Title V operating permit – an important tool for enforcement and public accountability – due to staffing shortages at ACHD.<sup>171</sup>

The toll of Edgar Thomson's pollution on surrounding communities is significant. According to U.S. Steel's reports to the federal Toxics Release Inventory (TRI), the risk posed by the facility's toxic releases – particularly its air releases of metals such as cadmium,

nickel, chromium, manganese and lead and their compounds – is twice as great as that of the average iron and steel mill nationwide, and 281 times as great as the typical industrial facility in Allegheny County reporting to the TRI in 2017.<sup>172</sup> Its toxic risk was the ninth-highest among all facilities in the county reporting to the TRI.<sup>173</sup>

The facility is also a major source of pollution in the Mon Valley. As of 2017, the plant was the third-highest emitter of hydrochloric acid in Allegheny County, after only U.S. Steel's Clairton Coke Works and Irvin Plant.<sup>174</sup> The plant is also one of the county's largest industrial sources of sulfur dioxide, nitrogen oxides and particulate pollution.<sup>175</sup>

Pollution from the Edgar Thomson Plant harms public health. A 2012 University of Pittsburgh study identified Braddock as one of a number of Mon Valley communities subjected to elevated levels of particulate pollution from industrial facilities.<sup>176</sup> While particulate pollution at the air quality monitor in North Braddock has fallen since the early 2000s, the area continues to post exceedances of federal health standards for particulates and other pollutants. In 2017, the air quality monitor in North Braddock registered fine particulate (PM<sub>2.5</sub>) pollution in exceedance of federal health standards once and levels of sulfur dioxide in excess of the standards three times. The exceedance of particulate health standards was the first recorded since 2011, illustrating the tenuous progress toward cleaner air in the area.<sup>177</sup>

For people living in the immediate vicinity of the Edgar Thomson Plant, the impact of pollution may be even greater. A 2012 study based on local air monitoring within Braddock found that particulate concentrations in the city on summer mornings were approximately double those measured at air quality monitors operated by ACHD located farther away from the plant, such as the one in North Braddock.<sup>178</sup> Concentrations of coarse particulates (PM<sub>10</sub>) were highest in areas near the plant, though no such variation in fine particulate levels (PM<sub>2.5</sub>) was found. "The results point to plant

operations-related particle emissions as the primary source for PM pollution in and immediately around Braddock,” the study found.<sup>179</sup>

As with other facilities across Allegheny County, the reliance of ACHD and other regulatory agencies on negotiated agreements – agreements that have often been violated by U.S. Steel – has left residents in areas around the plants continuing to struggle with the health effects of pollution. And, as with several other facilities, ACHD has made recent moves toward a more aggressive regulatory posture.

In November 2017, the U.S. EPA, working with ACHD, issued a notice of violation to U.S. Steel for violations that occurred at the Edgar Thomson Plant, including violations of limits for visible emissions that occurred during 2016 and 2017, as well as other violations of the facility’s Title V permit.<sup>180</sup>

In a press release, ACHD Director Dr. Karen Hacker called the notice of violation “a strategic change in ACHD’s enforcement efforts by utilizing all of our legal options, which in this case is a joint action with EPA.”<sup>181</sup> The enforcement action related to the 2017 notice of violation is with the U.S. Department of Justice as of this writing.<sup>182</sup>

Along with the Irvin Plant, the Edgar Thomson Plant experienced a surge in sulfur emissions related to the fire at the Clairton Coke Works in December 2018 (see page 22). The emissions violations resulting from the incident are the target of a Clean Air Act citizen suit filed by PennEnvironment and the Clean Air Council in April 2019.

It remains to be seen how the issues identified in the 2017 notice of violation will be resolved, as well as the long-term impact of the county’s more aggressive enforcement posture and U.S. Steel’s proposed major investment in its Mon Valley facilities. For residents of Braddock and neighboring communities, however, eliminating the Edgar Thomson Plant’s threat to public health – something that has repeatedly been promised for four decades – can’t come soon enough.

## ATI Flat Rolled Products, Brackenridge

***A steelmaker violated permitted pollution limits for years with little action by ACHD. When public health advocates sued, ACHD responded by issuing a slap-on-the-wrist fine. The plant also operates without ever having been issued a required Title V operating permit.***

ATI Flat Rolled Products (ATI) operates a steel mill in Brackenridge on the Allegheny River, making stainless steel and specialty steel products from scrap.<sup>183</sup> The Brackenridge facility now includes the functions of a former plant in nearby Natrona, which operated until 2010.<sup>184</sup>

ATI, formerly known as Allegheny Ludlum, has been the target of at least 40 formal and informal clean air enforcement actions at its local facilities since 1990, according to U.S. EPA records.<sup>185</sup> Operations at the Brackenridge facility were allowed to exceed pollution limits for more than a decade. ACHD has also never issued the facility a Title V operating permit, a critical tool for enforcement and public accountability.

In 2002, ACHD issued installation permits for two new electric arc furnaces at ATI’s Brackenridge facility. The permits did not include limits for several pollutants released by one portion of the facility, including sulfur dioxide, nitrogen oxides, carbon monoxide and volatile organic compounds.<sup>186</sup> In a 2017 court filing, environmental organizations including PennEnvironment claimed that “Allegheny Ludlum failed to disclose the emissions of these pollutants” and, by so doing and emitting those pollutants to the air, “Allegheny Ludlum violated the ACHD Implementation Plan.”<sup>187</sup>

Limits were set on other emissions from the plant’s operations in the 2002 permits, but it is unclear whether ATI ever complied with many of them. According to a 2017 legal filing by ACHD, “from 2004 to the present, ATI exceeded on multiple recorded instances the ... emissions limits” in one of its permits and failed to meet requirements of another permit as well.<sup>188</sup> Emissions tests carried out in 2004, 2006 and 2011 showed that the



## ATI Flat Rolled Products, Brackenridge

furnaces released between 56 percent and 129 percent more sulfur dioxide annually than was allowed under the conditions of the permit.<sup>189</sup>

Even as the facility continued to violate its previous permits, ACHD moved in 2016 to relax the pollution limits in those permits, allowing emissions two to three times as high as had previously been allowed.<sup>190</sup>

In public, ACHD officials minimized the importance of ATI's emission limits. In 2016, Jim Kelly, then-acting deputy director of ACHD's environmental health bureau, told the *Pittsburgh Tribune-Review* that "The sulphur dioxide and nitrogen oxide produced at ATI is not an issue and is minimal in comparison to other sources of pollution."<sup>191</sup> However, in 2017, ATI's Brackenridge facility produced 157 tons of nitrogen oxide (NO<sub>x</sub>) pollution, equivalent to 3 percent of NO<sub>x</sub> emissions from the county's largest industrial point sources of pollution, and 22 tons of sulfur dioxide emissions.<sup>192</sup> Allegheny County is still failing to attain national air quality standards for sulfur dioxide and for ozone (of which nitrogen oxides are a component), so any exceedance of permit limits at facilities

such as ATI makes it more difficult for the county to meet its air quality goals.

ATI's reported toxic releases to the air also pose a greater health risk than any other industrial facility in Allegheny County, according to the U.S. EPA's Risk Screening Environmental Indicators.<sup>193</sup>

In March 2017, environmental organizations Environmental Integrity Project, Clean Air Council, Group Against Smog and Pollution and PennEnvironment filed notice of intent to sue ATI over its long history of violations at the Brackenridge facility.<sup>194</sup> Under the Clean Air Act, a notice of intent to sue must be filed 60 days before a citizen suit can be filed to enforce the law. The day after that 60-day period ended, ACHD filed its own lawsuit against the facility along with a simultaneous settlement of that lawsuit – an action that precluded the citizen suit from moving forward. That settlement required ATI to pay a \$50,000 fine, but also committed ATI to submitting revisions to several permit conditions that "present compliance issues."<sup>195</sup> The Environmental Integrity Project criticized the settlement as "toothless." "Instead of cracking down on

the pollution from Allegheny Ludlum's furnaces, the county wants to let the company off the hook through a revised permit," said Patton Dycus, the organization's senior attorney.<sup>196</sup>

The violations at the Brackenridge facility are not the only air quality problems resulting from ATI's operations in the Allegheny Valley. ATI is the supplier of slag (a nonmetallic byproduct of the steelmaking process) that has been the source of dust problems at the nearby Harsco Metals facility and ATI has been included as a responsible party along with Harsco in legal actions related to the problem.<sup>197</sup> (See "Harsco Metals," this page.)

In addition, as noted above, ATI was issued a \$1.6 million fine in 2010 as a result of legal action by ACHD and the U.S. EPA resulting from violations detected by a U.S. EPA inspection at its former Natrona facility in 2007. Violations included exceeding standards for visible pollutant emissions.<sup>198</sup> A 2007 notice of violation issued by the U.S. EPA for exceedances of limits on visible pollution from ATI's Natrona and Brackenridge plants highlighted the failure of previous enforcement efforts by ACHD to address visible emissions from the facility:

EPA is also aware that Respondents have received multiple Notices of Violation from ACHD for violations of the same requirement(s), and that prior settlements between ACHD and the Respondent have failed to bring Respondent back into compliance with the Pennsylvania SIP.<sup>199</sup>

As part of the 2010 settlement, the company agreed to close its Natrona facility, which was already scheduled to be closed in a planned consolidation of steelmaking at the company's Brackenridge site.<sup>200</sup> A health study at nearby Highlands High School in 2010 revealed levels of manganese and lead in outdoor air in excess of federal health guidelines – pollution that was strongly correlated with the operation of the now-closed melt shop at that facility.<sup>201</sup>

## Harsco Metals, Natrona

***Dust from Harsco Metals' facility has coated cars, toys and houses in a nearby community for years – and the company acknowledges that it doesn't know how to solve the problem. Yet, for years, ACHD negotiated agreements with the facility and Harsco still remains without a required Title V clean air permit.***

Harsco Metals processes slag (a byproduct of the steelmaking process) from the ATI Flat Rolled Products mill in neighboring Brackenridge (see page 26). The process produces dust that was known for years to coat cars, toys and houses in nearby neighborhoods. More than a decade of enforcement efforts by the Allegheny County Health Department did not stop the pollution.

Pollution from the Harsco facility has been a public health concern for years, due to significant emissions of cancer-causing substances (including chromium and lead) and neurotoxins (such as manganese).<sup>202</sup> The U.S. EPA rates the facility's toxic releases to the environment as posing a potential toxic risk 200 times as great as that of the typical industrial facility in Allegheny County and nearly 2,000 times as great as the median facility nationwide.<sup>203</sup>

Because the slag is processed in the open air, the dust often becomes airborne and contaminates nearby neighborhoods. After pressure from residents and the threat of legal action from the Group Against Smog and Pollution, ACHD forced Harsco to install equipment to control the dust in 2018, though it remains to be seen if that has fixed the problem.

Emissions escaping from the facility have been the target of environmental agencies for more than a decade.

In 2007, staff with the U.S. EPA and the ACHD inspected the Harsco facility and observed fugitive emissions from the slag dumping and cooling process.<sup>204</sup> In November 2007, the U.S. EPA issued a notice of violation to the facility for "fugitive air emissions from the slag dumping and handling process."<sup>205</sup>



**Dust from Harsco Metals' Natrona facility has coated nearby neighborhoods for years.**

Two years later, the U.S. EPA and the ACHD ramped up the pressure against the facility by filing suit against Harsco and ATI, noting that the fugitive emissions were “not controlled or limited by any preventive measures.”<sup>206</sup> The emissions included nitrogen oxides, volatile organic compounds, particulate pollution and hazardous air pollutants.<sup>207</sup>

Six months later, in April 2010, the agencies entered into a settlement with ATI and Harsco. The companies agreed to reduce the fugitive emissions by installing a fogger system and to pay a \$184,900 fine.<sup>208</sup>

After years of ongoing violations and dust emissions, in 2011, ACHD approved a modification to Harsco's permit that increased the amount of slag the facility was permitted to process, along with a resulting increase of particulate pollution.<sup>209</sup>

Meanwhile, the fugitive dust problem that drew attention from ACHD and U.S. EPA in 2007 remained unresolved. In February 2017, investigators with ACHD discovered dust on children's toys and play equipment in the Opal Court neighborhood of Natrona Heights. Even the inspectors' car, which was parked in the neighborhood for only an hour, was covered in slag dust. Local residents reported that Harsco representatives had visited the neighborhood to offer \$50 vouchers to pay for cleaning their

vehicles, a clear indication that the company knew it was responsible for the problem.<sup>210</sup>

The next month, ACHD issued a notice of violation to the facility requesting that Harsco and ATI submit a “compliance plan which is aimed at eliminating the fallout particulate which has affected neighboring residential communities.”<sup>211</sup> The department also issued a \$41,675 fine.

The facility did submit the compliance plan, but problems with dust fallout continued. ACHD inspectors observed evidence of dust fallout in the Opal Court neighborhood in May, June, August, September, October and December of 2017.<sup>212</sup> It took until April 2018, more than a year after ACHD required the company to submit a plan to eliminate the falling dust, for Harsco and ATI to report that a consultant had recommended the installation of a spray nozzle system to limit particulate emissions from the facility. However, the companies did not state when the system might be installed. Meanwhile, dust continued falling on the neighborhood.<sup>213</sup>

In May 2018, with no sure timeline in hand for installation of new emissions controls, the department issued another notice of violation – this time requiring Harsco/ATI to act quickly by submitting a revised compliance plan by the end of the following month

and implementing it within 20 days of approval by the department. The increased urgency on the part of ACHD was noted by ATI in its request to the agency to delay the enforcement order.<sup>214</sup>

“[T]here was no need for ACHD to issue an order with such short-term deadlines. ACHD has been investigating alleged fallout particulate emissions from the Natrona Facility for years. Harsco and ATI have been cooperating in that investigation for years. The Order was altogether unexpected and, at least in terms of timing, is inconsistent with how ACHD has approached this matter in the past.”<sup>215</sup>

Whether the current compliance plan will protect surrounding neighborhoods remains in question. In ATI’s request for a stay of the 2018 notice of violation, the company argued that the slag reprocessing operation is inherently polluting and that it would be impossible for the company to prevent all particulate pollution from the activity. “Particulate matter emissions will almost certainly be generated from this process,” the company argued. “Such emissions may remain on site or travel off site depending on factors such as wind patterns. It is therefore impossible to meet ACHD’s ‘eliminate all fallout particulate’ standard.”<sup>216</sup>

Beyond the continued pollution problems at Harsco, the facility is also one of several industrial facilities that have never been issued a Title V operating permit by ACHD. The department’s most recent update of Title V permits, published in May 2019, notes that Harsco’s 2018 application for a Title V permit remains “on hold pending enforcement action and proposed new control installation.”<sup>217</sup>

Despite decades of enforcement actions by ACHD, problems with the Harsco Metals plant continue in 2019 and the slag processor still does not have a proper Title V operating permit. It is too soon to tell whether ACHD’s change in enforcement approach will continue and will finally succeed in bringing an end to the falling dust that has plagued the Allegheny Valley for years.

## Eastman Chemicals and Resins, West Elizabeth

***A chemical factory with a long history of violations of clean air rules, Eastman Chemicals is one of several industrial facilities in Allegheny County that continue to operate without a federally required Title V operating permit. The permit is one of two the U.S. EPA specifically recommended that ACHD “expediently issue” in a 2017 review.***

Eastman Chemicals and Resins has been operating its Jefferson Hills facility since it acquired the site from Hercules Inc. in 2001. The facility produces a variety of products, including “hydrocarbon resins and dispersions used primarily in hot melt adhesives, rubber and plastic compounding, coatings, sealants and plastic modification.”<sup>218</sup> While Eastman is classified as a major source of volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>) and toxic air pollutants, it has never been issued a Title V permit – a critical tool for public accountability and effective enforcement.<sup>219</sup> Eastman is an example of ACHD’s long-time struggles to issue and renew Title V permits in a timely manner, and to hold industrial polluters accountable for their pollution.

Despite reducing its VOC emissions significantly since 2001, Eastman remains a significant source of VOCs, producing 23 percent of VOC emissions from Allegheny County’s largest industrial point sources of pollution in 2017.<sup>220</sup>

The facility has a long history of violations of clean air rules, resulting in a string of formal and informal enforcement actions. U.S. EPA records show formal or informal enforcement actions against the facility in 1995, 2003, 2005 and 2009. The 2005 U.S. EPA notice of violation documented exceedances of permit limits for VOCs stretching back as far as 1994 and found that the company had not been operating equipment as required in its installation permits.<sup>221</sup>

In 2008, ACHD ordered Eastman to permanently stop using four of its VOC storage tanks to decrease potential emissions of VOCs.<sup>222</sup>



## Eastman Chemicals and Resins, West Elizabeth, PA

Despite these actions, problems at the facility continued, prompting a 2011 lawsuit filed by the U.S. EPA and ACHD. The lawsuit detailed Eastman Chemical's decade-long failure to adhere to the conditions of its emissions permits – enabling excessive VOCs to escape into the region's air.<sup>223</sup>

In September 2011, the U.S. EPA, ACHD and Eastman Chemical reached a consent agreement to resolve the lawsuit.<sup>224</sup> The agreement required Eastman to “install pollution control equipment, perform VOC emissions testing, perform monitoring, maintain records, and submit reports and permit applications to the United States and the Allegheny County Health Department.”<sup>225</sup> It also required Eastman to pay two \$316,000 penalties, one to the U.S. Treasury and one to the Allegheny County Clean Air Fund.

Eight years after the resolution of the lawsuit, ACHD has still not issued Eastman Chemical a required Title V permit and the facility continues to struggle to implement the terms of the consent agreement. According to public comments filed by the Group Against Smog and Pollution (GASP) in February 2019, Eastman appears not to have completed all the emissions testing nor to have filed all the permit applica-

tions required under the consent agreement.<sup>226</sup> GASP has urged ACHD to reject Eastman's application to increase production and emissions from one of its units until the company is in full compliance with the terms of the consent order.<sup>227</sup>

ACHD reports that it expects to issue the remaining permit applications to comply with the consent order by the end of 2019, to receive an application from Eastman Chemical for a Title V permit by May 2020 and to issue the Title V permit by the end of 2020.<sup>228</sup>

Eastman Chemical is not the only Allegheny County industrial facility to go many years without a required Title V permit. A U.S. EPA audit conducted in 2017 found that ACHD had “a significant percentage of Title V permits which are administratively extended or backlogged,” noting that ACHD had delayed issuing initial Title V permits for Eastman and another facility due to ongoing enforcement issues. The U.S. EPA urged ACHD to “expediently issue these permits.”<sup>229</sup>

As the 2011 lawsuit documented, Eastman Chemical had a demonstrated record going back to at least 2001 of violating the terms of its air pollution

permits. And yet, 18 years later, the facility remains without a Title V operating permit and Allegheny County residents cannot be confident that the facility is being operated in a way that is maximally protective of public health. While ACHD has a plan in place to expedite the permitting process, the history of the department's treatment of Eastman Chemical is consistent with its track record of slow responses to air pollution threats from the county's industrial facilities.

## McConway & Torley, Pittsburgh

***A steel foundry located in the densely populated Lawrenceville neighborhood of Pittsburgh has released toxic manganese into the community's air for decades. Yet, it took years for ACHD to issue the facility a proper permit. Despite ACHD's recent willingness to insist on the facility's adherence to emissions limits, concerns about odors and spikes in manganese emissions from the plant continue.***

McConway & Torley (M&T) has operated a foundry manufacturing railroad equipment in the Lawrenceville section of Pittsburgh since just after the Civil War. Today, the foundry sits in a densely populated area of Pittsburgh, with more than 150,000 people within a three-mile radius.<sup>230</sup> The foundry has been a consistent source of emissions of manganese, a neurotoxin, and other pollutants, as well as odors that are a consistent source of complaints by neighboring residents.<sup>231</sup>

Facing complaints from neighboring residents and public health advocates, both the company and the Allegheny County Health Department have taken steps designed to limit pollution from the facility, but it took years for ACHD to finalize an operating permit for the facility.

McConway & Torley applied for an operating permit from ACHD as a "minor" air pollution source in 1996.<sup>232</sup> (So-called "minor" sources of pollution are

generally not required to have Title V operating permits and face less stringent standards for emission control technology designed to limit releases of air toxics.)

The company has long been a source of pollution in the community. U.S. EPA records show air releases of manganese from McConway & Torley since at least 1989.<sup>233</sup> McConway & Torley ranked eighth out of 51 Allegheny County facilities for the toxic risk posed by its air emissions under the U.S. Environmental Protection Agency's Risk Screening Environmental Indicators (RSEI) metric for 2017.<sup>234</sup>

In 2010, as the facility was applying to ACHD for permission to reactivate an electric arc furnace, air monitoring by ACHD found manganese concentrations in the surrounding area that exceeded federal health risk benchmarks.<sup>235</sup> ACHD began regular monitoring of levels of three toxic metals – manganese, lead and chromium – at the edge of the facility's property, monitoring that continues to the present day.

For roughly the next five years – until the fourth quarter of 2015 – levels of manganese in the air outside the facility often remained above federal health guidelines.<sup>236</sup> And while levels of lead near the facility never exceeded federal air quality standards, public health experts agree that there is no safe level of exposure to lead – particularly for children, for whom any level of exposure to lead presents an increased risk of developmental and neurological problems.<sup>237</sup>

Even as health-threatening levels of pollution from the facility continued, ACHD moved in January 2011 to approve a permit for reactivation of the electric arc furnace.<sup>238</sup> The decision was appealed by the Group Against Smog and Pollution (GASP). The appeal prompted an agreement between McConway & Torley and GASP that allowed the reactivation of the furnace but with the installation of additional pollution controls to curb releases of metals and particulate matter from the plant.<sup>239</sup>



## McConway & Torley Foundry

Despite the agreement, concerns about pollution from the plant continued. In 2012, the facility failed a stack test for numerous pollutants, and did so again the following year, though with lower levels of pollution.<sup>240</sup> And in 2014, a revision of how emissions at the facility were calculated led to a dramatic increase in pollution estimates and the possible reclassification of the facility as a “major source” – triggering additional requirements, including the need to obtain a Title V operating permit.<sup>241</sup>

In order to remain classified as a minor source of pollution, ACHD estimated that the facility would have to dramatically scale back steel production – from a maximum of 92,500 tons per year to only 21,250 tons per year. In 2015, ACHD issued a revised draft permit with the lower production limits.<sup>242</sup> The strict new proposed permit – along with continued advocacy for clean air by local residents – clearly got the company’s attention.

McConway & Torley ensured that fugitive emissions were unable to escape the facility by sealing the building and creating negative air pressure through the continuous operation of emission control

equipment.<sup>243</sup> After demonstrating to the satisfaction of ACHD that emissions were not escaping from its factory building except through the emissions control system, a new draft permit was issued in 2017 restoring the 92,500 ton per year production limit, though with lower permitted levels of many key pollutants, including manganese.<sup>244</sup> The permit was approved in October 2018, though McConway & Torley appealed several of the permit’s conditions.<sup>245</sup>

While the long process of issuing an operating permit to the facility appears to be nearly over, concerns about air pollution in the community remain. In the second quarter of 2018 and again in the first quarter of 2019, average levels of manganese in the air exceeded the federal government’s standard for health concerns, the first such exceedances since 2015.<sup>246</sup> The community remains concerned about such periodic spikes in manganese concentrations and has called on ACHD to investigate the cause and to maintain fence-line monitoring of manganese levels, which the department had originally proposed to discontinue during negotiations over McConway & Torley’s new permit.

Concerns about odors from the plant also continue. Between January and early June 2019, McConway & Torley was the subject of at least 26 odor complaints submitted through the “Smell Pittsburgh” app – a smartphone app developed by a team from Carnegie Mellon University that enables local residents to report odors.<sup>247</sup> Among the complaints was the following from April 10, 2019: “Sickening burning, toxic smell from McConway and Torley. Why is this allowed to happen?”

## Allied Waste Imperial Landfill, Imperial

***A landfill in western Allegheny County produced odors that prompted complaints from teachers and students at a nearby elementary school. A health study and enforcement action by the Pennsylvania DEP and ACHD led to significant fines and operational changes at the facility to address the odor problem, though concerns remain.***

Allied Waste Systems’ Imperial Landfill in Findlay Township covers roughly 803 acres, with 10 disposal areas and a landfill gas collection system.<sup>248</sup> The facility has received more than 22 million tons of waste since 1973.<sup>249</sup> The landfill is located just a quarter-mile away from Wilson Elementary School, which serves more than 500 students from kindergarten through fifth grade.<sup>250</sup>

Growing complaints about odors, headaches and other health problems at the school – and a federal health study that identified concerning levels of air pollutants on the school property – led state officials, and eventually ACHD, to take actions that brought about improvements at the landfill. Even today, however, pollution concerns remain and, as with several facilities in Allegheny County, ACHD is years behind in issuing a revised Title V pollution permit that would better protect the public’s health.

Landfills are not always the best of neighbors. Complaints about odors and blowing trash at the Imperial

facility date back to at least the late 1990s.<sup>251</sup> In 2004, a consent order between the U.S. EPA and the landfill’s former owner addressed excessive emissions of methane and the company’s failure to properly monitor pollution from the facility.<sup>252</sup>

In early 2009, however, complaints about odors reaching Wilson Elementary School triggered a string of actions that eventually led to changes at the landfill. Students and faculty at the school reported that bad odors from the landfill had become more frequent and severe during the winter of 2008-2009, and complained of “headaches, nausea, sinus issues, throat problems and ‘a feeling of being drugged.’”<sup>253</sup> By January 2009, complaints about odors had reached the Pennsylvania Department of Environmental Protection (DEP).<sup>254</sup> PA DEP issued notices of violation to the facility in April, June, August and October as a result of off-site odors.<sup>255</sup>

In April 2009, a petition was filed asking for a public health assessment of the health risks caused by odors from the landfill at the elementary school.<sup>256</sup>

The health assessment, conducted by the U.S. Agency for Toxic Substances and Disease Registry (ATSDR) and completed in March 2010, found elevated concentrations of methyl mercaptan and methylamine in the school’s parking lot that created the “potential for an acute public health hazard.” While the assessment did not find potentially hazardous concentrations of other chemicals, some were detected at levels that could cause offensive odors, which can lead to headaches, nausea, watery eyes, and respiratory irritation and coughing. The assessment’s results were reinforced by a survey conducted by ACHD, which noted a significant correlation between instances of people at the school reporting strong odors and the frequency of throat irritation and headaches.<sup>257</sup>

Even as the ATSDR evaluation was proceeding, complaints about odors continued. Nearly 100 separate complaints regarding odors from the landfill



# Improving Clean Air Enforcement: Lessons from the Case Studies

**A**llegheny County residents deserve clean air. The Clean Air Act and other environmental protections provide a framework to reduce health-threatening pollution and protect public health.

Those laws are only as effective, however, as the agencies that enforce them. The U.S. EPA's history of delegating authority for environmental enforcement to states – and the hands-off approach it has taken overseeing state and local agencies to which it has delegated that authority – has often resulted in lackluster efforts to protect public health.<sup>267</sup>

Allegheny County has historically been no exception. Over the course of decades, the Allegheny County Health Department has been slow to issue legally required permits to polluting industrial facilities, been slow to act when the terms of those permits have been violated, and has often relied on negotiated agreements, rather than aggressive enforcement, to bring industrial facilities into compliance with the law. ACHD continued this approach despite its evident failure – failure that can be marked both in the continuing violations of clean air rules by major polluters in Allegheny County and by the persistent air pollution that puts the health of county residents at risk.

To live up to its responsibility to Allegheny County residents, ACHD needs a new approach to clean air

enforcement – one that begins with issuing permits in a timely manner with tough limits on air pollution that protect public health; holds polluters accountable for following the law and issues credible, prompt, fair penalties when they don't; and invites the public in as a partner in cleaning the region's air through public education and engagement.

ACHD has publicly acknowledged that elements of its previous approach to enforcement have not worked. According to the department's website:

Thanks to an expanded legal team, over the last two years, ACHD has ramped up its enforcement efforts in several ways, *including leaving behind negotiated consent orders because progress wasn't being seen, and issuing direct enforcement orders and civil penalties.* (emphasis added)<sup>268</sup>

There are clear best practices ACHD can use to protect public health. And after decades of slow progress that has left many Allegheny County residents continuing to breathe unhealthy air, ACHD must continue to accelerate efforts to hold the county's polluters accountable.

PennEnvironment Research & Policy Center recommends that ACHD take the following steps to fulfill its mission to faithfully enforce environmental laws and to protect the health of Allegheny County residents.

## Issue Timely, Health-Based Air Quality Permits

Several Allegheny County industrial facilities have been without legally required Title V operating permits for decades. ACHD's failure to fulfill its permitting responsibilities has left the public without critical tools for holding polluters accountable and has reduced the department's credibility as a regulator. In a 2017 evaluation of ACHD's Title V program, the U.S. EPA noted that there was a substantial backlog – 41 percent – of Title V permits needing approval from ACHD.<sup>269</sup>

While the U.S. EPA did note ACHD's recent progress in issuing Title V permits, a backlog persists. As of May 2019, ACHD lists 32 facilities as requiring a Title V permit. Of those, four have never received a permit, and six have permits that are overdue for renewal.<sup>270</sup>

ACHD should work to eliminate the backlog of Title V operating permits while maintaining its ability to issue other critical air pollution permits and to enforce the law. To achieve that goal, ACHD may require additional staff – the 2017 U.S. EPA review noted that it was an “unreasonable expectation” that ACHD's current staff could maintain the department's existing programs while whittling down the Title V permit backlog.<sup>271</sup> The U.S. EPA review suggested that, like other agencies around the country, ACHD was suffering from a lack of resources as a result of a reduction in Title V fees paid by regulated air polluters. PA DEP has proposed an increase in Title V fees to generate additional funds for enforcement while continuing to ensure that responsible polluters – and not the public – pick up the cost of regulation.

In addition to ensuring that permits are issued in a timely manner, ACHD should work to ensure that the permits that are issued are maximally protective of public health.

## Take Timely, Aggressive Enforcement Action to Hold Polluters Accountable

Consent orders and negotiated settlements can sometimes protect air quality by enlisting industrial facilities as partners in developing effective strategies for air pollution control.

Negotiated agreements, however, are only effective when they are sufficient to protect public health and when industrial facilities uphold their end of the agreement. Ensuring that industrial polluters fulfill their commitments requires the credible threat of penalty if they don't. Moreover, a credible threat of enforcement action helps convey the message to other polluters in the area that they cannot violate the terms of their permits or negotiated agreements without facing significant penalties.

There are other powers ACHD possesses that the agency has rarely, if ever, used to bring polluting facilities into compliance with the law. The county's Article XXI regulations give ACHD the power to “restrain or enjoin immediately and effectively any person from engaging in any activity in violation of a regulation or permit that is presenting an imminent and substantial endangerment to the public health or welfare, or the environment.”<sup>272</sup> Article XXI also gives the department power to revoke installation or operating permits under many conditions.

For more than four decades, ACHD has relied in large part on negotiated agreements with major polluters to reduce air pollution in Allegheny County. But continued violations of those agreements by major polluters, coupled with continuing air quality challenges in Allegheny County, cry out for a new approach.

In several instances in recent years, ACHD has moved away from negotiated settlements, imposing strong civil penalties and compelling industrial facilities to take immediate actions to cut pollution. In the emer-

gency order issued after the June 2019 fire at Clairton Coke Works, the department even held out the possibility of forcing U.S. Steel to cease coke-making operations if it could not address pollution from the facility within a defined length of time.<sup>273</sup> ACHD should use its powers to create a credible deterrent to illegal pollution and hold industrial facilities to the terms of their pollution permits.

In some instances, additional authority under state law would enable ACHD to become a more effective regulator. ACHD and clean air advocates have made the following suggestions for improvements at the state level:

- Update the air pollution episode criteria standards in state law to allow ACHD to take more aggressive action whenever air pollution threatens public health.
- Affirm ACHD's authority to shut down industrial facilities immediately if pollution levels at nearby monitors indicate a threat to public health.
- Require industrial facilities to notify the public within 24 hours when accidents occur that threaten public health.
- Increase maximum penalties for air pollution violations.<sup>274</sup>

## Expand and Improve Air Quality Monitoring

Air quality monitoring is a critical tool for protecting public health. It is also useful for enforcement. The detection by air monitors in the Mon Valley of health-threatening levels of sulfur dioxide following the 2018 fire at the Clairton Coke Works demonstrated to ACHD that U.S. Steel's strategy to reduce the pollution threat from its plants was not working.<sup>275</sup>

Monitoring can also ensure that existing air pollution controls are working to protect public health. Concerns about exposure to manganese detected

by fenceline monitoring at the McConway & Torley foundry in Lawrenceville, as well as recent studies documenting the local impacts of emissions from facilities like U.S. Steel's Edgar Thomson Plant and Clairton Coke Works, demonstrate that Allegheny County residents deserve more thorough, complete and timely information about the presence of health-threatening air pollution in their neighborhoods.

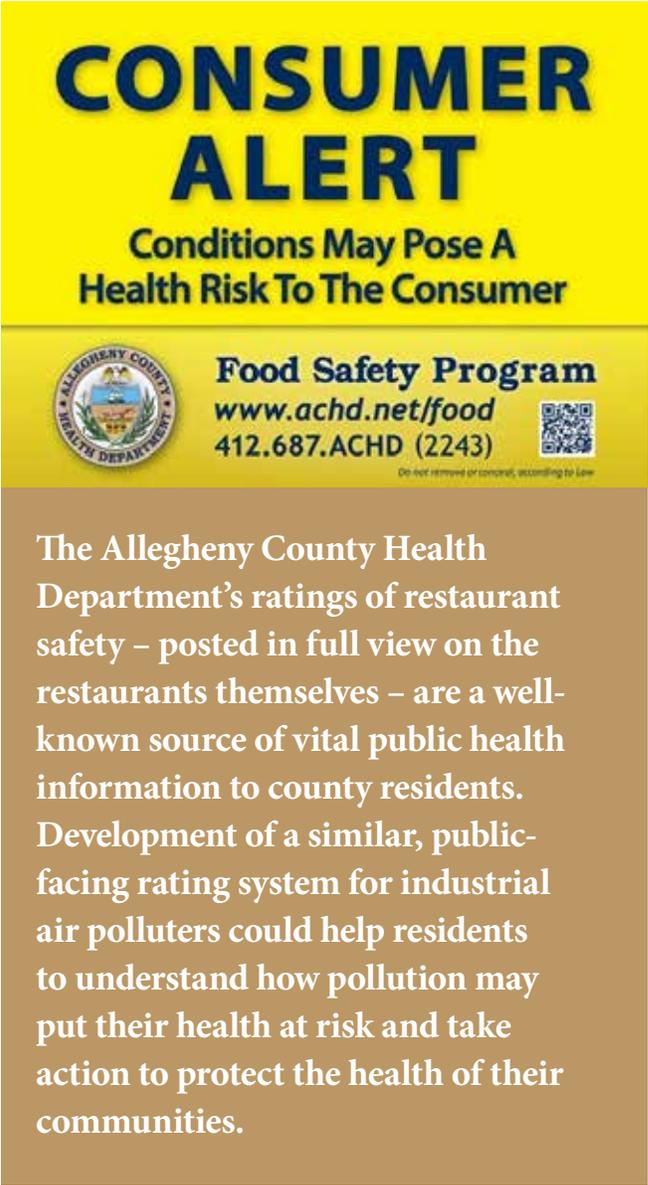
Advances in technology also put the power to monitor air quality within the hands of local organizations, residents and others, generating valuable information that can inform efforts to protect air quality.

ACHD should continue and expand monitoring programs in areas where pollution has been a public health concern. The department should also work to create a two-way flow of information between residents and community organizations monitoring air quality and the department itself, to ensure that the department has the information it needs to quickly identify public health threats and violations of the law and ensure that residents are fully aware of the quality of the air they breathe. An abundance of local, real-time air quality data, such as Carnegie Mellon University's Smell Pittsburgh app and a network of low-cost Purple Air monitors, should make such collaboration easier than ever. All monitoring data should be made available to the public in forms that are easily accessible, including online.

## Partner with the Public and Other Agencies to Protect Allegheny County's Air

ACHD's decision to join a citizen lawsuit against U.S. Steel for pollution from the Clairton Coke Works marked an important watershed in the department's approach to enforcing the law. In recent years, ACHD has leveraged resources from non-profits and state and federal law enforcement agencies to increase its ability to take enforcement actions against polluters. Those efforts should continue.

ACHD should also employ new and novel tools to communicate both the status of the county's air and the performance of individual facilities to members of the public who may not be experts in air quality issues. Allegheny County residents are familiar with ACHD placards found on the front of restaurants, which indicate whether eating at a restaurant might put a person's health at risk. The county should develop a similar, consumer-friendly tool to communicate whether living, working or playing near a major industrial polluter threatens to put a resident's health at risk. Such tools can help county residents be fuller, better educated participants in efforts to improve Allegheny County's air quality and make it more likely that residents will know where to turn when odors, dust or health symptoms indicate that a nearby industrial facility is operating in ways that jeopardize public health.



**CONSUMER ALERT**

**Conditions May Pose A Health Risk To The Consumer**

 **Food Safety Program**  
[www.achd.net/food](http://www.achd.net/food)  
 412.687.ACHD (2243) 

Do not remove or conceal, according to Law

The Allegheny County Health Department's ratings of restaurant safety – posted in full view on the restaurants themselves – are a well-known source of vital public health information to county residents. Development of a similar, public-facing rating system for industrial air polluters could help residents to understand how pollution may put their health at risk and take action to protect the health of their communities.

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