

Matthew Mehalik, Ph.D.
Executive Director
Breathe Project
Energy Innovation Center
1435 Bedford Ave. Suite 140
Pittsburgh, PA 15219
412-514-5008
mmehalik@breatheproject.com
breatheproject.org

Remarks for Public Testimony

Joint PA Senate and House Democratic Policy Committee
Hearing on US Steel Clairton Coke Works Explosion, Air Quality, and Community Notification Issues
Clairton Municipal Building
551 Ravensburg Blvd
Clairton, PA 15025

February 7, 2019

Dear Chair Boscola and Distinguished Members of the Pennsylvania Senate and House:

Thank you for holding this hearing. I appreciate the opportunity to comment on the ongoing community impacts to air quality and public health following the explosion at the US Steel's Clairton Coke Works on December 24, 2018.

In Allegheny County, we should feel confident knowing that the air we breathe will not make us sick or cause cancer, asthma, or other diseases. We have the right to live and work in clean, safe-and healthy environments.

Pittsburgh has made improvements from the industrial days of the past, but there is still a long way to go before the air is truly healthy and safe for everyone. Our county is in the top 2 percent of counties nationwide for risk of cancer from air toxics. The Allegheny County Health Department should take action to rapidly and significantly reduce air pollution in the County so that our risk is comparable to, or better than, other urban counties. Our children have significantly higher rates of asthma compared to national averages. Asthma affects a child's ability to learn and thrive.

It is the job of our local elected officials to act as the ultimate protector of the health of the people of Allegheny County. Protection of residents' health should be the highest priority for our public servants. Sadly, that may not be the case today. It is not acceptable for elected officials to allow industries to create higher cancer risks, higher respiratory and cardiovascular disease rates, higher rate of asthma, and deny local citizens' rights to clean air.

Everyone knows that air pollution is bad for your health. No one wants to breathe dirty air, get sick, or to see our children, our parents, our friends or neighbors get sick or die before their time. The time for action is now. Pittsburgh has a history of coming together to meet its challenges.

I appreciate the opportunity to speak today. I would also encourage members of this hearing panel to talk with local residents living in this community. Their voices need to be heard. Their experiences need to be invited to the table.

I also encourage each person here to go and observe the peachtree flare from the top of 5th street in Glassport—to hear the constant jet engine-like sound and smell of un-desulfurized coking gas that is

burned in the open air—and to know what it is like to live in proximity to three massive flaring ports located above the valley in a football-field-sized, scorched area, that looks like a place out of Mordor from *Lord of the Rings*.

Context: Allegheny County Already Has Had Serious Air Quality Problems Even Before this US Steel Incident

Even before this explosion at the US Steel Clairton Coke Works, our region has been suffering from some of the worst air pollution in the United States.

The American Lung Association's (ALA) annual "State of the Air" (SOTA) report for 2018 again put the Pittsburgh region on notice. Allegheny County once again received straight Fs for ozone, daily particulate matter levels and long-term particulate matter levels. This was the only county outside of California to get straight Fs for all three measures of air pollution.

For the daily measure for fine particle pollution, the metro area's rank fell from 17th worst in the country to 10th worst out of 201 areas. Of all counties in Pennsylvania, only Allegheny County experienced an increase in the frequency of unhealthy days for this pollutant (from 6.0 to 8.5 days). The frequency of high particle pollution days was the highest for any county east of Utah.

The Pittsburgh region was one of four regions with an increase in the number of "spikes" in particles. Despite this deterioration in air quality, the metro area's rank for annual particulates held steady overall as the 8th worst air in the country out of 187 places. The Pittsburgh region has occupied this spot for the third report in a row. The metro area has the worst air in the country outside of California.

The Pittsburgh metro area also showed poor performance for ground level ozone. While the three-state, 12-county metro area showed general improvement, Allegheny County levels remained high enough that the metro area still ranked 32nd worst out of 227 areas across the country for ozone.

(Lung.org/sota)

Allegheny County is designated as a "nonattainment" area for fine particulates (PM 2.5) and Sulfur Dioxide, meaning it is out of compliance with the Clean Air Act, even before this most recent incident in Clairton.

Allegheny County, designated as nonattainment for the 2012 PM_{2.5} NAAQS, (with an effective date of April 15, 2015) was required to submit a Moderate area attainment plan to EPA no later than October 15, 2016. ACHD has still not met this deadline despite it being two years past the due date.

Allegheny County has ended up on a what can be described as a rogue list that was published in the Federal Register on April 6, 2018 entitled, "Findings of Failure To Submit State Implementation Plan Submissions for the 2012 Fine Particulate Matter National Ambient Air Quality Standards (NAAQS)" (<https://www.federalregister.gov/documents/2018/04/06/2018-06989/findings-of-failure-to-submit-state-implementation-plan-submissions-for-the-2012-fine-particulate>).

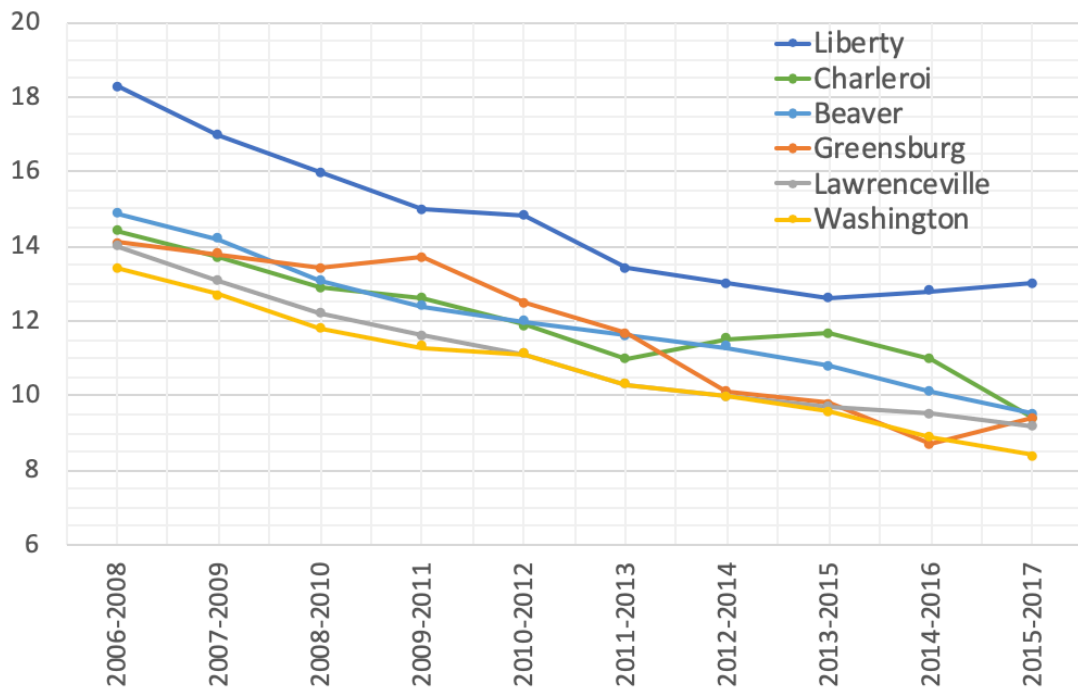
In 2017 (the latest qualified data), the air quality in Allegheny County was considered NOT GOOD for 203 days (more than 55% of the time). This builds off of the 189 NOT GOOD air days in 2016.

Based on an annual average for PM 2.5 spanning 2015 – 2017, eight of the 10 Pittsburgh regional monitors had PM 2.5 levels in the worst 20% ranking of the nation's 775 monitors. Three of these ten monitors, such as the Liberty Monitor near Clairton, were in the worst 10% nationally.

For 2015 -2017, four of the Pittsburgh region’s 11 ozone monitors ranked in the worst 30% of the nation’s 1135 monitors (<https://breatheproject.org/resources/air-pollution-sources/>).

The Liberty monitor, the monitor in closest proximity to the Coke Works, has been showing increases in annual PM 2.5 emissions for the past several years, most likely explained by degraded compliance by the Coke Works. This negative trend has occurred despite improvements in air quality upwind from other states and elsewhere in Allegheny County. See Figure 1.

Temporal Trends (PM2.5 Annual)



Source: CATF 2018

Figure 1: Temporal Trends of PM 2.5 Annual Average (3-year) for regional monitors with data since 2006. Note the contrast in performance of the Liberty monitor, closest to the Clairton Coke Works, which appears to be getting worse over time, as compared with other regional monitors, which reflect the cleaning up of mostly coal-fired powerplants and industrial facilities. Source: Clean Air Task Force 2018.

US Steel Clairton Coke Works: A History of Air Pollution Issues

Clairton Coke Works has been causing air pollution problems for a long period of time:

In a citizen’s 60-day notice to sue Clairton in 2016, Penn Future documented that Clairton Coke Works had over 6,700 air pollution violations between January 1, 2012 and May 31, 2015. That’s an average of polluting over five times a day, every day for nearly three and a half years

<https://www.post-gazette.com/local/south/2016/01/29/PennFuture-intends-to-sue-U-S-Steel-Corp-for-air-pollution-violations/stories/201601290106>).

In June of 2018, ACHD issued an enforcement order and a fine of more than \$1 million to U.S. Steel due to a decrease in compliance over time at its Clairton Coke Works facility. Part of this order also specifies a sanction of “hot idle” if violations continue to occur through two subsequent quarters in 2019

https://www.alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Programs/Air_Quality/ACHD-USSteel-Enforcement-Order-062818.pdf).

ACHD issued an additional civil penalty against U.S. Steel, a fine of more than \$600,000 in October of 2018, for continued emissions problems for the second quarter of 2018 at the Clairton Coke Works facility (<https://www.post-gazette.com/news/health/2018/10/18/Clairton-Coke-Works-fined-another-620K-emissions-problems-Allegheny-County-health-department/stories/201810180104>).

The Clairton Coke Works is in Penn Environment’s “Toxic Ten” report, based on the EPA’s Toxic Release Inventory Data (<http://toxicten.org>).

Pollution from the Clairton Coke Works affects a large number of people, particularly a large number of low income, elderly, and African American people. According to environmental justice statistics from the US EPA’s EJ Screen tool (<https://ejscreen.epa.gov/mapper/>):

- Approximately 130,000 people live within a 5-mile radius of the Clairton Coke Works property (5 mile Ring Centered at 40.318643,-79.897805)
- People in this area have air that is worse than 91 percent of the entire country for particulate matter
- 1/3 of the people living in this area have low income
- 36 percent of people in this area are minority population, primarily African American
- 1/5 of the people living in this area are older than 64 years old

Community Experience US Steel Clairton Coke Works Explosion

The first moment that the Breathe Project learned about the Clairton Coke Works Christmas Eve event was in the middle of an Allegheny County Board of Health meeting on January 9, 2019. Deputy Director for Environmental Health Jim Kelly described a fire at the plant, followed by county air quality emissions violations of the 1-hour Sulfur Dioxide standard of 75 ppb on the following dates: December 26 and 28, 2018 and January 3, 4, and two violations on January 8, 2019. The December 28 date had a sulfur dioxide spike that was nearly double the level that triggers a violation of the standard (<http://pacoceovens.org/wp-content/uploads/2019/01/6.-ACHD-Second-Press-Release.pdf>).

My observations of what the Board was concerned about was whether US Steel was being cooperative. Nobody at ACHD or the Board of Health asked whether the residents of Clairton, the Mon Valley, or Allegheny County were OK, despite the multiple SO₂ exceedances. Nobody asked when the problem would be solved. Just whether the polluting firm, US Steel, was being “cooperative.”

It was at this same time that ACHD issued its health alert, stating “Mon Valley residents, particularly those with existing respiratory and/or cardiovascular conditions, children and the elderly, are being encouraged to limit outdoor activities until further notice.”

It was 5 days later, on January 14, 2019, that Dr. Gentile visited Clairton students as part of her regular schedule of school visits and reported her findings of significant decreases in lung function.

During that period following January 9, 2019, there were many questions about what happened. There still remain several questions that we have about this situation:

- What were the reasons that it took over two weeks to report this incident and communicate that the Clairton Coke Works was operating without pollution control equipment to remove sulfur from coke gas emissions?
- Was the Allegheny County Fire Marshall ever called to investigate this incident, which was much more than a mere fire?
- What are the reasons that we are all relying upon a contractor that US Steel hired to investigate this incident rather than an independent party or government entity?
- What was the cause of the incident in the first place?
- What are the reasons that residents of Allegheny County are subjected to an order to limit outdoor activity while US Steel continues to produce coke in a facility without pollution control equipment that is REQUIRED by the Clairton Coke Work's Title V permit?
- What are the justifications for allowing conditions to persist that have resulted in air pollution warnings being issued about 25 percent of the days in 2019?
- What other businesses are permitted to harm people's health for months at a time without a clear plan for preventing those harms?

ACHD has been issuing "Allegheny Alerts" daily, tracking whether or not "SO2 Exceedances" have occurred. It needs to be pointed out that SO2 exceedances are not markers of whether US Steel is somehow conforming to standards of the Clean Air Act. These announcements do not address violations of particulate matter standards.

Any such exceedance actually means that ALLEGHENY COUNTY and the State of Pennsylvania is out of compliance with the Clean Air Act for Sulfur Dioxide (or any other criteria pollutant)—not US Steel. The SO2 exceedances that did occur mean that our regional government is not doing its job to protect the health of county residents by meeting federal air quality requirements. That is how the Clean Air Act has been set up to hold states—and in our special case—Allegheny County—accountable to federal air pollution standards. So ACHD's using SO2 standards as a metric of performance is the county's tracking whether or not the County itself is meeting requirements of the law.

The legal mechanism that enables states – and in our case Allegheny County—hold companies and facilities accountable is each facility's Title V permit. The Title V permit specifies the required conditions and data collection and measurement techniques that ensure a facility is operating at levels so that our county does not exceed federal air quality guidelines.

If you examine the US Steel Clairton Coke Works Title V permit, there is clear language in the permit that requires US Steel to operate a desulfurization unit – specifically to remove sulfur compounds, such as H2S and SO2 from coking gas before it can be used or flared. Specifically, under permit item K. "Desulfurization Plant" on Page 181, item 1c clearly states:

- The permittee shall, at all times: [Enforcement Order No. 200, November 18, 1994]
- 1) Properly maintain two Claus Plants at the coke oven gas desulfurization facility. Each Claus Plant shall be capable of independently processing all of the coke oven gas produced by the coke plant at full production.
 - 2) Operate one Claus Plant when coke oven gas is being produced.

3) Have its second Claus Plant ready for start-up and operation when a breakdown of the first Claus Plant occurs, except when the second Claus Plant is down for repairs, maintenance or modification. All repairs, maintenance and modifications to Claus Plants shall be made as expeditiously as practicable. The second Claus Plant shall start up and be fully operational within 18 hours of each breakdown on the first Claus Plant if the plant production is below 5,000 tons of coke per day at the time of the breakdown, or within 30 minutes of each such breakdown if the production is 5,000 tons of coke per day or greater. (<http://pacokeovens.org/wp-content/uploads/2019/01/2012-03-12-Title-V-Permit-of-U.-S.-Steel-Clairton-Works.pdf>)

In addition, The Title V permit prohibits U.S. Steel from burning coke oven gas where the concentration of sulfur compounds (measured as H₂S, hydrogen sulfide) exceeds certain concentrations:

“The permittee shall not operate, or allow to be operated, any source in such manner that unburned coke oven gas is emitted into the open air. In addition, no person shall flare, mix, or combust coke oven gas, or allow such gas to be flared, mixed, or combusted, unless the concentration of sulfur compounds, measured as hydrogen sulfide, in such gas is less than or equal to the following concentrations: [§2105.21.h]

1) For coke batteries designated 13, 14, 15, 20, and B, a concentration of ten (10) grains per hundred dry cubic feet of coke oven gas;

2) The standard set forth in V.K.1.j.1) above for coke oven batteries designated 13, 14, 15, 20, and B shall be deemed satisfied for such batteries if the coke oven gas from batteries designated 1, 2, 3, 13, 14, 15, 19, 20 and B and treated by the Clairton Works coke oven gas desulfurization system in existence as of June 24, 1993, has a sulfur compound concentration, measured as H₂S, of no greater than 40 grains per hundred dry standard cubic feet of coke oven gas produced by the Clairton Works, when all sulfur emissions from its Claus Sulfur Recovery Plant and the tail gas cleaning equipment thereon, expressed as equivalent H₂S, are added to the measured H₂S. The concentration of sulfur compounds shall include tail-gas sulfur, measured as hydrogen sulfide, emitted from sulfur removal equipment.”

(Permit condition V.K.1.j., page 184). (<http://pacokeovens.org/wp-content/uploads/2019/01/2012-03-12-Title-V-Permit-of-U.-S.-Steel-Clairton-Works.pdf>)

What all of this means is that the Clairton Coke Works facility is operating outside of its legally required provisions as spelled out in its Title V permit. This means that the plant’s emissions are not really being controlled under required legal specifications. As a result, our County continually flirts with regional violations of the Clean Air Act, and regional residents are subjected to orders to stay indoors. None of this is reasonable from the perspectives of legal requirements and public health.

What this means is that ACHD, the regulator responsible for holding facilities and companies accountable to legal requirements to protect the regions health and air quality, needs to exercise its authority to protect the health of Mon Valley and Allegheny County residents.

Instead, here is what the community is experiencing:

The flaring of un-desulfurized coke oven gas directly into the atmosphere, as is shown in Figures 2 and 3, a photograph taken on February 2, 2019 for the top of 5th Street in Glassport, looking across the valley towards the US Steel Irvin works. Note that this is a large flare. It consists of 3 burner units. The ground on which these burner units stand is approximately the size of a football field. Field reports indicate that the flare sounds like a jet engine running continuously.



Figure 2: View of flare of un-desulfurized coking gas from Glassport, PA



Figure 3: Close up of view of flare of un-desulfurized coking gas from Glassport, PA

The past week has resulted in very high number of very bad smells as recorded by the crowdsourced Smell Pittsburgh reports (Figures 4 – 6):

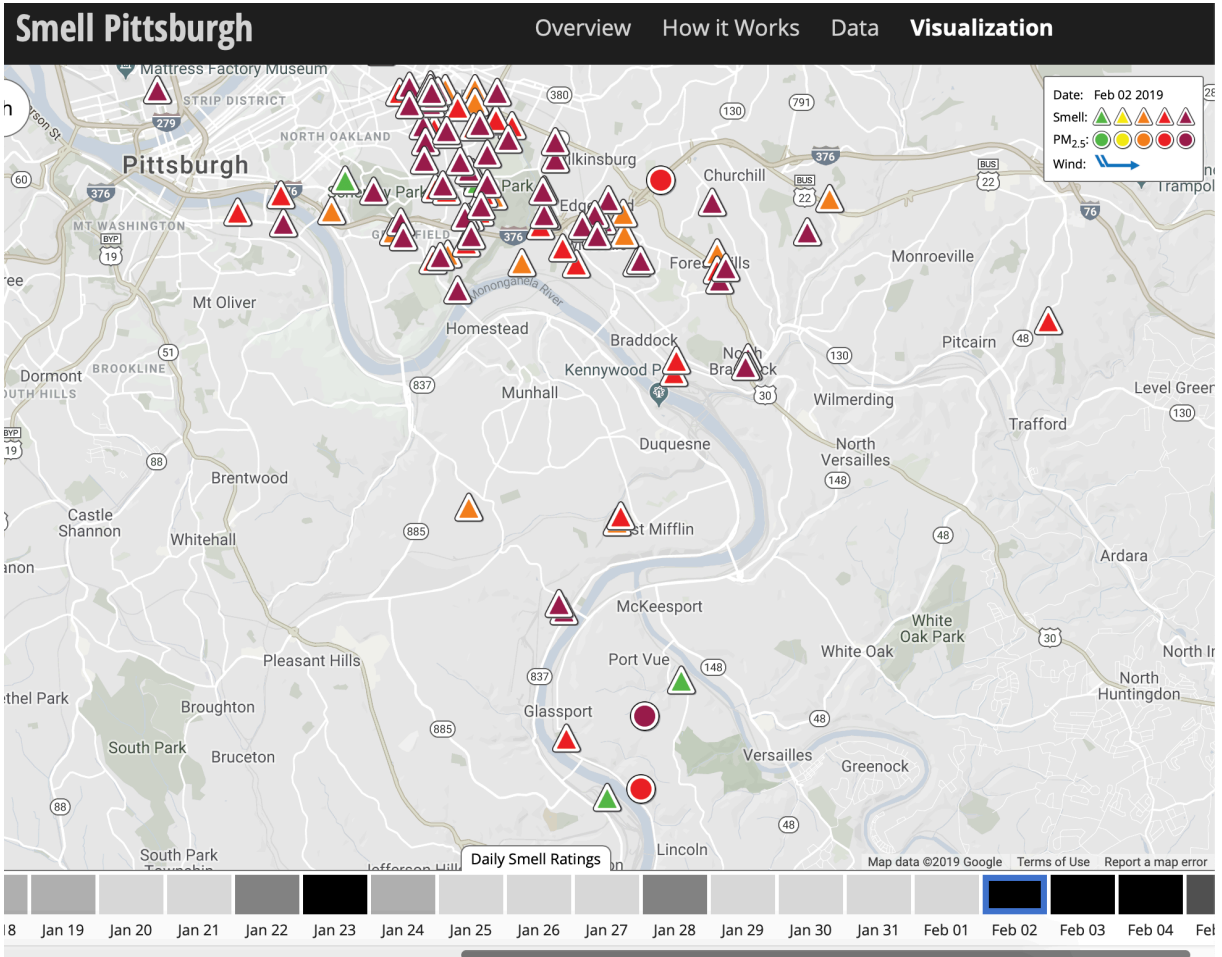


Figure 4: Smell PGH reports for Feb. 2, 2019

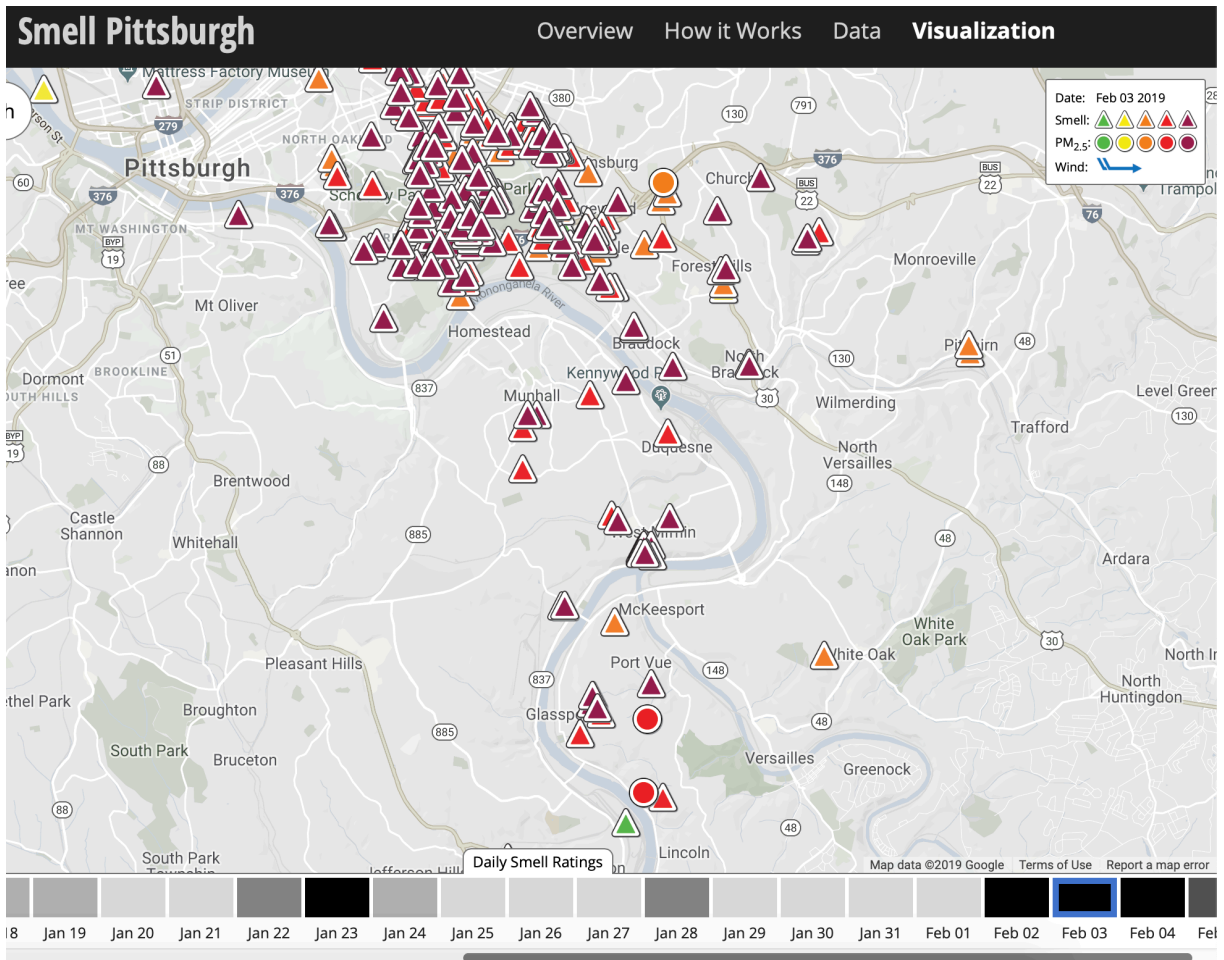


Figure 5: Smell PGH reports for Feb. 3, 2019

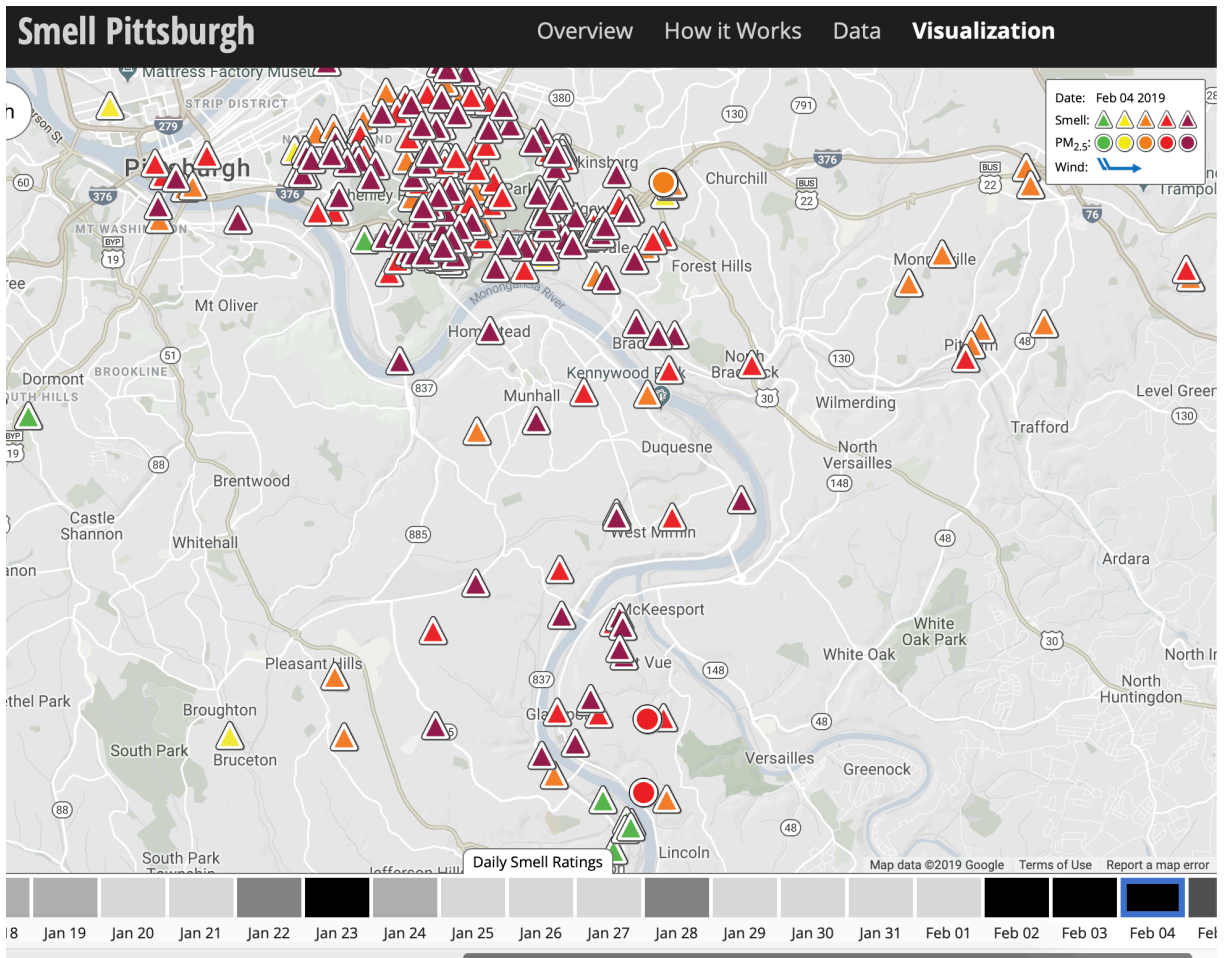


Figure 5: Smell PGH reports for Feb. 4, 2019

There was an additional SO2 1-hour exceedance on February 4, 2019. The Health Department issued a statement that foregrounded weather as the explanation for these high readings.

Let us be clear: The weather does not create pollution. Uncontrolled facilities that generate pollution are the source of the pollution that gets amplified under certain weather conditions.

Let us also be clear: The wind is not a control strategy for pollution and protecting public health.

Let us once again be clear: This unacceptable situation is what is proposed as the “solution” going forward at least until May of 2019, at which time US Steel has stated that 70% of the repairs will be completed at the Clairton Coke Works.

I’m not even sure what 70% means in this context. 70% of what? How is that a measure of assurance to a public that is receiving daily messages that air pollution events that could produce exceedances of federal air quality standards?

What Mon Valley Residents and Others in Allegheny County Are Calling For:

- An independent investigation of what caused the fire and explosion at the plant.
- Absent any reasonable control strategy that actually complies with the plant's Title V permit, ACHD should order the Coke Works to implement a hot idle situation.
- ACHD needs to stop treating the situation like an episodic pollution event resulting in isolated emissions violations rather than the systematic situation, that results in continuous emissions in Sulfur Dioxide pollution without an acceptable, specified health-protective plan or endpoint.
- ACHD spelled out in its enforcement action in June 2018 that if the Clairton Coke Works cannot control its emissions, it would specify that that the plant should be put on hot idle. ACHD's timeline was based on 2 subsequent quarters of non-compliant emissions in 2019. That was before the current situation in which major pollution control equipment is not operating. The risks to public health under the current situation call for ACHD to put batteries in hot idle until pollution control equipment can be brought back online.
- Hot idle is not the same as "shutting the plant down." It means that coal is not being baked to generate coking gas. It does not mean damaging ovens by forcing them to cool.
- At a minimum, the most polluting batteries should be put on hot idle. It is unacceptable for the pollution to continue unabated. The plant must curtail operations as much as possible, only to resume once assurance can be made that the public's health is not being compromised.
- Such an action falls in line with air quality regulators have done in other states to protect the health of the public. Just this past July 2018, New York state regulators ordered the Tonawanda Coke plant in Buffalo, New York to shut down operations after a state Department of Environmental Conservation inspection of the facility found persistent and repeated violations of the plant's permit. The order was based on a state inspection of the coke plant that followed numerous complaints from residents who live near the facility in the Town of Tonawanda. (During the inspection, the state found several violations of environmental regulations it described as persistent and ongoing. (<https://buffalonews.com/2018/07/20/state-orders-tonawanda-coke-shut-down-after-inspection-finds-persistent-violations/>)).
- US Steel can afford to fix these problems:
 - US Steel posted full-year 2018 net earnings of \$1,115 million, or \$6.25 per diluted share
 - A full-year 2018 adjusted EBITDA of \$1.76 billion
 - Returned over \$110 million of capital to stockholders in 2018, including \$75 million of share repurchases (<https://globenewswire.com/news-release/2019/01/30/1707955/0/en/United-States-Steel-Corporation-Reports-Fourth-Quarter-and-Full-Year-2018-Results.html>)
 - Details (3rd Quarter 2018) shows that US Steel's Flat Rolled products division, which includes coking operations, pulled in \$2.7 Billion revenue for the company, the sixth quarter in a row for which the company made more than \$2 Billion per quarter in that operational segment.
 - The Flat Rolled Products Division produced \$305 million in 3rd Quarter earnings in 2018 before income and taxes (EBIT). This builds upon \$257 million in EBIT in the

first half of 2018 as well as \$386 million in EBIT in 2017
(<https://globenewswire.com/news-release/2018/11/01/1641688/0/en/United-States-Steel-Corporation-Reports-Third-Quarter-2018-Results.html>).

None of these remedies address the ultimate issue: we need to address the rapid transition from fossil fuel-based sources within the next decade. The flaring of un-desulfurized coking gas in the atmosphere is not only a pollution problem from the perspective of public health and the community in the immediate term. It is a problem for future generations for the climate change pollution that the plant generates. We must find less impactful ways to meet the needs of our society without creating the damage that comes from operating a plant in the way that the Clairton Coke Works operates. I believe that innovation and creativity should become the bedrock of our regional economy, not 19th Century production and pollution control band-aids.

Thank you for your time and consideration.

Sincerely,

Matthew M. Mehalik, Ph.D.
Executive Director
Breathe Project