

**Borough of Carlisle**  
**Workshop Meeting Minutes**  
**March 2, 2022**

Present at the meeting: Councilors Crampsie, Hicks, Mellen, Perry, Stuby, Deputy Mayor Landis and Mayor Shultz. Also present were: Borough Manager Armstrong, Assistant Borough Manger Snyder, Police Chief Landis, Water Resources Director Malarich, Sustainable Economic and Community Planning Director Woolston, Finance Director Juday, Fire Chief O'Donnell, Public Information Coordinator Taylor and Borough Secretary Stone.

**I. Call to Order & Pledge of Allegiance**

Mayor Shultz called the Workshop Meeting to order at 6:00 p.m. and lead the Pledge of Allegiance.

**II. Citizens to be Heard**

- A. Tami Biddle, 75 East Ridge Street, Carlisle, Pennsylvania, a member of the Clean Air Board (CAB) of Central Pennsylvania. She noted the CAB is a non-partisan group that advocates for clean air and tries to find solutions. Ms. Biddle presented a PowerPoint about emission concerns from the Frog Switch & Manufacturing Company. In this presentation information on an EPA grant for community air monitoring was introduced as a funding source for the Borough to monitor the air quality. The PowerPoint is attached to these minutes.

Councilor Hicks thanked Ms. Biddle for bring this information to Council's attention. He inquired on the inside information on the self-reporting process for Frog Switch to indicate where there might be gaps. Councilor Hicks also asked if the trends were going in the wrong direction due to the operations or the models changing and is there any insight from EPA on this reporting?

Thomas Au, President of the CAB responded that the self-reporting for toxic release inventory is governed by EPA rules but we don't know how the company gathers its data and reports it to EPA. He remarked that the modeling used is a risk assessment tool that the EPA has used for long time. Mr. Au explained the data that goes into that model as reported by "ProPublica" includes meteorological data as well as emissions data that is an assessment that only looked at air pollutants as they are being released to identify hot spots.

Discussion ensued about obtaining a testing procedure that is more accurate than the minimum testing required. It was noted that possible testing could be done off site of Frog Switch. Mr. Au shared that outside environmental and engineering companies could provide an estimate for the cost of testing to use for the grant application.

Dr. Craig Jurgensen, 119 Brighton Drive, Carlisle, Pennsylvania spoke of a 1950's incident where an air inversion occurred in a Pittsburgh town that had a steel and zinc factory. The air inversion flooded the air with toxic elements from the factories killing thousands of people. He noted the EPA was formed from this incident. Dr. Jurgensen remarked that low-level emissions have been occurring in Carlisle for decades and we should find out what the levels are in our air. He noted that many toxic damages and diseases result from micro dosing of nickel and cadmium.

**III. Mayor's Report**

- A. Mayor Shultz presented a proclamation to Lucy Winn, a Carlisle resident who previously served as the 2020 and 2021 Pennsylvania Honey Queen and was selected as the 2022 American Honey Queen based upon her skills in marketing, promoting, public speaking, and writing. Mayor Shultz

congratulated Ms. Winn on her accomplishments, her representation of the Borough of Carlisle and the state of Pennsylvania.

Ms. Winn remarked that as the American Honey Queen, she will travel throughout the country sharing with schools, fairs and media the vital role that honeybees play in pollination. She noted what we can do to help the honeybees is to support your local beekeeper and by planting large patches of native flowers. She was thankful for the Borough highlighting and realizing the importance of the honeybee in the American honey industry. Deputy Mayor Landis spoke of meeting with Ms. Winn in the future to learn what other communities are doing to encourage those that are interested in learning more from experienced bee keepers.

B. Carlisle Logo and Flag Design:

Deputy Mayor Landis provided details on the process that will be implemented in the search for a new Borough logo and flag design. The ERCP committee will take the lead on engaging with the community on their thoughts for a new design. The process will begin with asking the community to respond to three questions and outreach for a designers/artists to attend meetings and participate in engagement. The questions and examples of a flag and logo designs will be circulated using various means of communication to the community. The ERCP committee will hold community meetings over 4 months at different locations throughout the Borough. A working group will be formed that consists of a TRC member and artistic minded citizens of Carlisle. They will then create guidelines and review the information and feedback received from the citizens. The ERCP will then make recommendations to Borough Council for a new flag and logo.

**IV. Meeting Minutes**

- A. Borough Council voted 7-0 to approve the February 2, 2022 Workshop Meeting Minutes. (Landis/Stuby)

**V. Budget and Finance Committee**

- A. Keystone Purchasing Network

Borough Council voted 7-0 to approve the participation in the Keystone Purchasing Network for the purposes of bidding and awarding a vehicle fuel contract for the period July 1, 2022 – June 30, 2023. (Stuby/Crampsie)

**VI. Public Safety Committee**

- A. DCED LSA Funds Grant Pursuit for Equipment:

Borough Manager Armstrong spoke of a “Local Share Account” (LSA) grant program through DCED for monies available for the purchase of new fire apparatus.

Fire Chief Randy O’Donnell provided Council an overview of the Borough’s present fire apparatus inventory and noted that two pumpers are due for replacement in 2023 at a cost of \$750,000 that is in the budgeted for one pumper. Chief O’Donnell explained that cost of fire apparatus is rising significantly and the budgeted cost will increase by nine percent over the next few months. He is recommending to purchase one new rescue pumper this year that meets all their needs. This will be a reduction in the fleet and a cost savings for the Borough. Chief O’Donnell noted that he was made aware of the DCED LSA grant that will provide monies for a fire truck replacement with no matching funds needed. He noted if the grant is received, it will be a savings for the Borough of \$870,000, which is the present cost to replacement one pumper truck. A resolution is needed to

apply for the grant that will be brought to Council for their consideration at the March Council meeting.

Councilor Landis inquired if the fire departments had issues with the size of the Borough's fire trucks maneuvering on Borough streets. Chief O'Donnell replied that with the advancement of technology in fire apparatus turn radius there have not been issues in the Borough.

**VII. Public Comment**

No public comment was heard.

**I. Adjournment**

There being no further business or public comment, the meeting adjourned at 6:59p.m.

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Sean M. Shultz, Mayor

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Joyce E. Stone, Borough Secretary

Briefing for  
Borough of  
Carlisle Council

March 2, 2022

The logo for the Clean Air Board of Central PA is a circular emblem. The top half is a solid blue circle containing the text "Clean Air Board of Central PA" in white serif font. The bottom half is a white cloud shape with a green-to-blue gradient, suggesting a clean, natural environment. The logo is set against a dark blue background that features a vertical white line on the left side.

Clean  
Air Board  
of Central PA

## Why is the Clean Air Board concerned about emissions from the Frog Switch and Manufacturing Co. facility ?



In a story of November 2021, the award-winning publication *ProPublica* identified Carlisle's Frog, Switch and Manufacturing Company as a facility of concern for hazardous air pollution. The story, which relied on data available from the Environmental Protection Agency (EPA), was intended to alert US communities to potential health threats in their local areas.

## What is *ProPublica*?



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*ProPublica* “is an independent, nonprofit newsroom that produces investigative journalism with moral force. We dig deep into important issues, shining a light on abuses of power and betrayals of public trust.”

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*ProPublica* awards: six Pulitzer Prizes, five Peabody Awards, nine George Polk Awards, two DuPont Columbia Awards, and four Emmy Awards

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From: <https://www.propublica.org/>

# *ProPublica's* Rationale for the November 2021 story

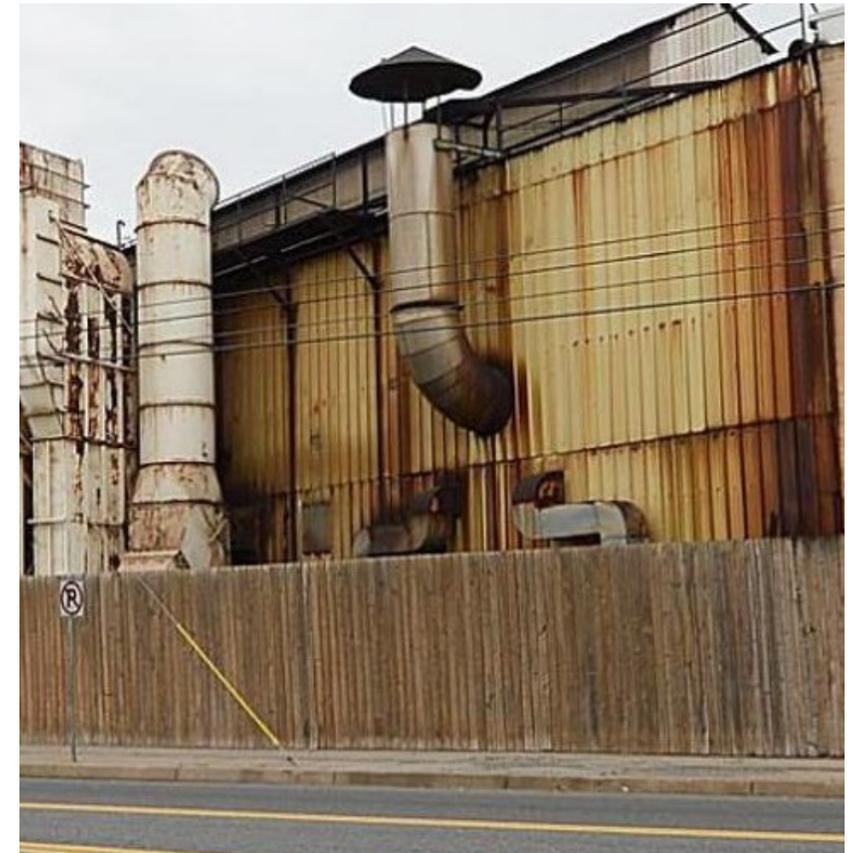
“*ProPublica's* analysis of five years of modeled EPA data identified more than 1,000 toxic hot spots across the country and found that an estimated 250,000 people living in them may be exposed to levels of excess cancer risk that the EPA deems unacceptable.

- Thousands of facilities nationwide that are considered large sources of toxic air pollution submit a report to the government each year on their chemical emissions.
- But the agency [EPA] has never released this data in a way that allows the public to understand the risks of breathing the air where they live. Using the reports submitted between 2014 and 2018, we [*Propublica*] calculated the estimated excess cancer risk from industrial sources across the entire country and mapped it all.”
- From <https://projects.propublica.org/toxmap/>
- EPA data on Frog Switch: <https://enviro.epa.gov/facts/tri/ef-facilities/#/Release/17013THFRG600EH>

# The Frog Switch facility

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- Frog, Switch and Manufacturing Company is a 34-acre facility located in downtown Carlisle, PA. It produces manganese steel castings and specializes in replacements parts for the mining and aggregate industries.
- The name of the company derives from its history as a producer of railroad components. A “frog” is a section of rail that allows a train to switch tracks. These components were the original ones produced by the factory, which dates back to 1881.
- As trucking replaced railways in the 1960s, the company phased out railway component manufacturing and began the manufacture of more profitable crushing and grinding wear parts for the North American ore and aggregate mining industries.
- The company employs about 180 individuals at its location in Carlisle. It has undertaken plant modernization since the 1970's, expanding plant capacity and, according to the company website “ensuring our molding processes are the most technologically advanced in the world.”
- Information from <https://www.frogswitch.com/>



# *Propublica's* Methodology

The analysis underlying the *Propublica* map uses data from an EPA model called [Risk-Screening Environmental Indicators, or RSEI](#). This model takes a variety of inputs, including emissions data, weather modeling, and facility specific information, and puts out estimated concentrations of toxic chemicals in the air around industrial facilities.

*Propublica* uses the EPA TRI [Toxics Release Inventory] database to compute cancer risk estimates for air releases and discusses the advantages and shortcomings of using EPA data to map industrial cancer risk.

From: <https://www.propublica.org/article/how-we-created-the-most-detailed-map-ever-of-cancer-causing-industrial-air-pollution#the-trouble-with-chromium>

# Frog Switch and Excess Cancer Risk

- The *ProPublica* article asserts that EPA data indicated that Carlisle citizens faced an estimated 1 in 11,000 excess lifetime cancer risk due to Frog Switch emissions.
- “Excess cancer risk” is an EPA-defined estimate. The agency sets “acceptable” cancer risk at 1 in 10,000, meaning that of 10,000 people living in a given area, there would be one additional case of cancer over a lifetime of exposure. The agency believes however that an ideal level of acceptable risk would be far lower – closer to one in a million. The authors of the *ProPublica* story chose to apply a standard between these two. The map used in the story highlights areas where the excess cancer risk is more than one in 100,000.
- *Propublica* estimates lifetime excess cancer risk in Carlisle at 1 in 11,000, which is very close to the EPA standard for acceptable risk. But that figure is an average. In 2014-2015 the risk figure was relatively low – about 1 in 37,000. But by 2016 the risk figure had risen, and between 2016 and 2018 ranged from 1 in 7,800 to 1 in 6,300 – both of which are well above the EPA estimate for acceptable risk.

# The Frog Switch facility and Toxic Substances

- *ProPublica* identified the Frog, Switch and Manufacturing Company as the source of 99.9% of the excess cancer risk in the region.
- The area identified in the report is defined as a rectangular area, having a population of 810, bounded by North East St., North Spring Garden St., E. High St., and Valley St.
- The *ProPublica* story indicates that Frog Switch emits **toxic nickel and chromium compounds**.
- It makes clear too that EPA data does not adequately distinguish between hexavalent chromium, which is a known carcinogen, and trivalent chromium, which is not.

# Safety/environment issues as addressed on the Frog Switch website

“Environmentally we continue to find new avenues for recycling and beneficial reuses for our waste streams and by-products. All major manufacturing inputs for our operation are environmentally non-hazardous. Through vacuum process molding and the use of olivine sand combined with water based binding systems; we achieve excellence.”

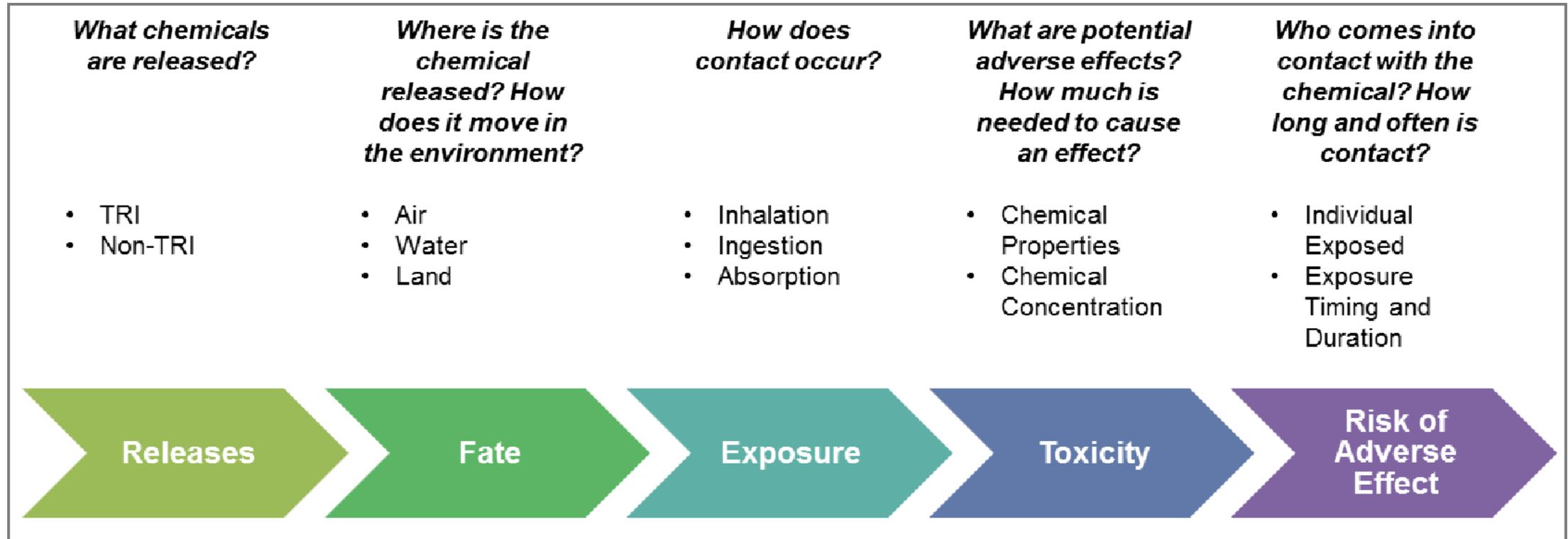
# Unhealthy Air and the Regulatory Process

- Hexavalent chromium and nickel can be inhaled as dust particles.
- Department of Environmental Protection's reports note many points of air emissions at the facility, among them:
  - Grinding mill
  - Air Stripper
  - ARC Air Booth
  - Casting Finish/Grinding Stack
  - Charging
  - Core Sand Mixing
  - Bag Houses
- [https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults\\_singleFacility.aspx?FacilityID=246534](https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleFacility.aspx?FacilityID=246534)

# Can Air Pollution Cause Cancer?

- Yes. Different types of air pollution have been linked to a variety of cancers. Regulators and scientists use the term “air toxics” to describe chemicals that can cause cancer or other serious health impacts such as asthma and heart disease.
- Even though air pollution can cause cancer, it is rarely possible to identify a single cause for one person’s cancer diagnosis. There are many factors that impact someone’s chances of developing cancer, including:
  - Exposure to air toxics from living near or working in industrial facilities
  - Exposure to pesticides, other chemicals or diesel and car exhaust
  - Genetics
  - Whether someone smokes tobacco, drinks alcohol
  - Diet and exercise
- These risk factors can sometimes compound one another, increasing the chance that cancer may develop.

# Factors that Influence Risk



# Chromium Hexavalent Compounds

- Chromium hexavalent (VI) compounds are *known to be human carcinogens* based on sufficient evidence of carcinogenicity from studies in humans.
- Epidemiological studies in various geographical locations have consistently reported increased risks of lung cancer among workers engaged in chromate production, chromate pigment production, and chromium plating.
- From *National Toxicology Program, Department of Health and Human Services*

# Hexavalent Chromium

- **How are people exposed to hexavalent chromium?**
- Hexavalent chromium exposure occurs through breathing it in, ingesting it in food or water, or direct contact with the skin.
- **What are the known health effects of inhaling hexavalent chromium?**
- Hexavalent chromium compounds have been shown to cause lung cancer in humans when inhaled. The [Report on Carcinogens](#) lists hexavalent chromium compounds as known human carcinogens. Studies have consistently shown increased lung cancer rates in workers who were exposed to high levels of chromium in workroom air.

From the National Toxicology Program National Institutes of Environmental Health Sciences, February 2018

# Nickel

- Pure nickel is a hard, silvery-white metal, which has properties that make it very desirable for combining with other metals to form mixtures called alloys. Some of the metals that nickel can be alloyed with are iron, copper, chromium, and zinc. These alloys are used in making metal coins and jewelry and in industry for making items such as valves and heat exchangers. Most nickel is used to make stainless steel. There are also compounds consisting of nickel combined with many other elements, including chlorine, sulfur, and oxygen.
- The Environmental Protection Agency (EPA) identifies the most serious hazardous waste sites in the nation. These sites are then placed on the National Priorities List (NPL) and are targeted for long-term federal clean-up activities. Nickel has been found in at least 882 of the 1,662 current or former NPL sites. Although the total number of NPL sites evaluated for this substance is not known, the possibility exists that the number of sites at which nickel is found may increase in the future as more sites are evaluated. This information is important because these sites may be sources of exposure and exposure to nickel may harm you. When a substance is released either from a large area, such as an industrial plant, or from a container, such as a drum or bottle, it enters the environment. Such a release does not always lead to exposure. You can be exposed to a substance only when you come in contact with it. You may be exposed by breathing, eating, or drinking the substance, or by skin contact.

From the Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological profile for Nickel

# What We Need to Know

- We do not have accurate and reliable air quality monitoring data from the Frog Switch facility. *Propublica's* map uses data from a sophisticated computer model that predicts where air toxics are concentrated around facilities based on emissions data that those facilities report. The model offers a starting point for understanding how much any one facility or chemical might be contributing to a community's cancer risk in an industrialized area. Often monitoring data are used to confirm the accuracy of a model.
- DEP's records do not show the quantity of emissions from the Frog Switch facility. Specifically, it does not show the amount of hexavalent chromium or nickel being released from the facility. *The records indicate that a full compliance evaluation of air emissions has not been conducted since June 2017.*

# EPA Exemptions and Frog Switch

- EPA (and thus DEP) has allowed exemptions from compliance with the air toxic rules during startup, shutdown and malfunctions. A court has found that these exemptions are unlawful pursuant to the Clean Air Act. (See Sierra Club v. EPA, 2008)
- EPA is now being forced to remove these exemptions from all permits. Unfortunately, they haven't yet done it for all the air toxic rules.
- Re: Frog Switch, it appears that several air toxic rules apply to the facility. At least one of these rules still seems to have the exemptions in the rule.
  - See for example the air toxics rules for Steel Pickling at Part 63, Subpart CCC which continues to have the exemption for malfunctions.
- This may be true also for the other applicable air toxic rules. DEP should not be including these in its permits.

# Testing for the Presence of Airborne Toxins

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- Testing for airborne toxins involves rigorous sampling and lab analysis
- Collection of samples and testing is usually performed by professionals
- Workplace testing is common.
- Protocols - <https://pubmed.ncbi.nlm.nih.gov/11249787/> (hexavalent chromium)
- <https://www.atsdr.cdc.gov › ToxProfiles › tp15-c7.pdf> (nickel)



# Another Measure for Airborne Toxins

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- A National Institutes of Environmental Health Sciences (NIEHS) study in Arizona has shown that citizen volunteers can be trained to use plants to monitor metals and other pollutants in air.
- Volunteers near a site in Superior, Arizona – which since the 1800s had been home to copper, silver, and gold mines – were taught to use plants to monitor for cadmium, lead, and arsenic in the air.
- The leaves of plants such as peppermint will collect airborne toxins. The leaves can then be collected and taken to a lab for analysis.
- A standard monitoring device, an inverted plastic frisbee that collects dust on its surface, is another method available to volunteers interested in monitoring airborne particles.



# The Rights of Carlisle Citizens

- Carlisle residents have a right to understand the risk of cancer in their community.
- They need to know what type of toxic air (with nickel and chromium) is being emitted by the Frog Switch plant, and the levels and location of hexavalent chromium in particular.
- They need to know what environmental safety measures are in place at the plant, and whether the high risk levels that obtained between 2016 and 2018 have continued or have been reduced recently.
- The right to a safe environment, including clean air and clean water, is a basic human right.

## Follow Up Steps

- Because we are an organization that does not like to simply raise issues without proposing possible solutions, we took note of a follow-up story that appeared in *ProPublica* just recently (January 2022)
- [https://www.propublica.org/article/epa-takes-action-to-combat-industrial-air-pollution?utm\\_source=ActiveCampaign&utm\\_medium=email&utm\\_content=Top+news%3A&utm\\_campaign=ATF+Daily](https://www.propublica.org/article/epa-takes-action-to-combat-industrial-air-pollution?utm_source=ActiveCampaign&utm_medium=email&utm_content=Top+news%3A&utm_campaign=ATF+Daily)

# Follow Up Steps II

- This story indicates that the EPA is ramping up monitoring around the sites identified in the original *ProPublica* story (and pinpointed on the toxin map). “Without good data,” the authors argued, “residents have no way of knowing about the dangers of what they’re breathing in and regulators are unable to act.”
- We at CAB very much hope that our local officials will pay close attention to the monitoring work the EPA may undertake with regard to the sites identified in the original *ProPublica* story.
- The follow-up story also indicates that the EPA is offering grant money for community monitoring. Here is a link to EPA’s grant program for community monitoring:
  - <https://www.epa.gov/grants/enhanced-air-quality-monitoring-communities>

# EPA Grants for Community Air Monitoring

- Enhance air quality monitoring in and near underserved communities across the United States.
- Support community and local efforts to monitor their own air quality and to promote air quality monitoring partnerships between communities and tribal, state, and local governments. The total estimated funding for this competitive opportunity is approximately \$20,000,000.

Overall, EPA anticipates awarding a total of approximately 50-70 assistance agreements (cooperative agreements or grants) from this announcement... EPA anticipates awarding approximately 20-30 assistance agreements ranging in value from \$25,000 to \$100,000 (i.e., “Small Grants”) and 30-40 assistance agreements ranging in value from \$100,001-\$500,000 (i.e., “Large Grants”).

# What if Frog Switch Leaves Carlisle?

- It will be far easier to do environmental remediation if the Borough has access to Frog Switch records and can work *with* the company to undertake environmental remediation, and rehabilitation of the site to make it safe going forward.