

Allegheny County Health Department – Air Quality Program
Clean Air Fund Application

Project Title: Equipment for Air Toxics and H2S Monitoring Equipment

| | | | |
|--|-----------|------------|---------------------|
| Applicant Name: Allegheny County Health Department Air Quality Program <input type="checkbox"/> Private Company <input type="checkbox"/> 501(c)3 Organization <input checked="" type="checkbox"/> Government <input type="checkbox"/> Academia <input type="checkbox"/> Other | | | |
| Contact Person: David Good | | | |
| Street Address: 301 39 th St Bldg 7 | | | |
| City: Pittsburgh | State: PA | Zip: 15201 | Phone: 412-578-8366 |
| Email: david.good@alleghenycounty.us | | | Fax: 412-578-8144 |

IMPORTANT: If a nonprofit, please attach 501(c)3 certification, as well as a mission statement and/or strategic plan from your organization’s Board of Directors. Additionally, please indicate whether your organization is registered with Guidestar by checking here:

If a government entity, please attach resolution of council.

Project Category:

The purchase of equipment, materials, or services to supplement the County’s air pollution control program

Please fill out the Supplemental Application coinciding with your project’s category

Funding Request:

| |
|------------------|
| \$340,554 |
|------------------|

Project Abstract: Provide a brief description of the proposed project or program. Detailed information will be requested in Section II.

| |
|---|
| Funds to purchase equipment and provide lab analysis for a study of Mon Valley odor and air toxics emissions. |
|---|

Project Period: Describe the anticipated length of your program

| |
|----------------------------------|
| Third quarter 2020 through 2023. |
|----------------------------------|

Project Location/Impacted Area:

| |
|--------------------------------------|
| Southern section of Allegheny County |
|--------------------------------------|

I. In-Depth Summary

Full project description:

The goals of this ambient air study are: (1) to determine the spatial patterns and trends of select air toxics emissions and odors (e.g. hydrogen sulfide) in the Mon Valley, and (2) to characterize community air toxic concentrations to assist in analysis of health impacts and development of risk reduction strategies. The ambient air monitoring will consist of a combination of active and passive sampling methodologies to measure species of known concern, and potentially identify others whose impact has not previously been known or quantified. Preliminary monitoring is expected to begin in October 2020. The study will commence by January 1, 2021 and last for one year in duration.

The ACHD Mon Valley area air toxics and odors study will include a comprehensive assessment of volatile organic compounds (VOCs), carbonyls, polycyclic aromatic hydrocarbons (PAHs), PM₁₀ metals and hydrogen sulfide (H₂S).

The flowing equipment is expected to be used for the study:

Active Monitors

- Summa Canisters for VOCs, such as benzene, acrolein and 1, 3-butadiene
- DNPH cartridges all carbonyls, such as formaldehyde and acetaldehyde
- HiVol polyurethane foam (PUF) samplers for all PAHs, such as B[a]P and naphthalene
- HiVol PM₁₀ samplers for all PM₁₀ metals, such as arsenic, lead and nickel compounds
- Stationary, continuous analyzers for H₂S (Ecotech H₂S converter + SO₂ analyzer)
- Acrolug H₂S Parts Per Billion Monitor for the H₂S portable monitoring array

Passive Monitors

- Camsco sampling kit that includes sorbent tubes, diffusive caps, tube shelters and bug screens at each monitoring station for BTEX
- Tisch TE-200-PAS outdoor passive sampler housing and TE-1014 5.5” diameter x 0.5” thick PUF disks for PAHs

There will be two (2) active monitoring sites for air toxics and odors (H₂S). These will be located at the existing Liberty and North Braddock monitoring stations. Passive monitoring will occur at existing monitoring locations (Liberty, North Braddock, Clairton, Lincoln and Glassport) along with select sites at areas of interest around the USS Clairton Coke Works, USS Edgar Thompson Works, and wastewater treatment plants within proximity to those locations. A total of 16 passive monitoring sites will be selected in total. The additional locations for the passive monitors and portable H₂S monitors will be determined using meteorology and modeling data.

I. In-Depth Summary

Quantifiable Results: Briefly describe how the success of this program will be measured, including any quantifiable results and/or deliverables (reports, papers, etc.)

Identification of the source and magnitude of chemicals causing odors and toxic air contaminants.
Reports on the results.

Deliverability: Briefly describe the steps taken to advance project deliverability/readiness to date:

Draft of study is under internal review.
Some equipment is being purchased using other funds.
A contractor has been found to assist in the project.
Preparations have been made for NATTS at Lawrenceville, changes at the North Braddock monitoring site.
Maps of potential sources have been drafted.

Timeline: Provide an estimated timeline for major project milestones. *Please note: No funds can be expended until contracts are finalized.*

| Task Name | Duration | Start Date | Finish Date |
|---------------------------------------|-----------------|-------------------|--------------------|
| Set study & acquire funds | 30 | 7/20/2020 | 9/15/2020 |
| Purchase equipment | 88 | 9/1/2020 | 12/31/2020 |
| Contract data processing | 88 | 9/1/2020 | 12/31/2020 |
| Site preparation | 22 | 10/1/2020 | 12/30/2020 |
| Monitoring Period | 325 | 10/1/2020 | 3/31/2022 |
| Process data | 315 | 1/15/2021 | 3/31/2022 |
| Analyze results & identify next plans | 173 | 7/1/2021 | 9/30/2022 |

Supplemental Application

| Applicant Name | | | | |
|-----------------|------------------|----------------|------------------|-------|
| BUDGET CATEGORY | GRANT REQUEST | MATCHING FUNDS | TOTAL | NOTES |
| | \$340,554 | | \$340,554 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | \$340,554 | | \$340,554 | |

Supplemental Application

Category VIII: Purchase of Equipment, Materials, or Services to Supplement the Air Quality Program

1.) Describe the equipment/materials/services/etc. to be purchased:

| Method | Passive or Active (P/A) | Monitor/ Analyzer | Equipment Cost | Laboratory Analysis (per sample) | Analyses (per site) | Analyses (total) | Misc. (supplies, expenses) | Total |
|---|-------------------------|-------------------|--------------------|----------------------------------|---------------------|------------------|----------------------------|------------------|
| TO – 15: Summa Canister | A | ATEC 2200 | \$16,000 | \$300 | \$18,300 | \$36,600 | \$1,000 | \$53,600 |
| TO-13: DNPH Cartridge | A | ATEC 2200 | \$16,000 | \$260 | \$15,860 | \$31,720 | \$1,000 | \$48,720 |
| PUF High Volume Sampler | A | Tisch TE-1000 | \$5,000 (x2) | \$512 | \$31,232 | \$62,464 | \$4,000 | \$76,464 |
| HiVol PM ₁₀ Sampler (metals) | A | Tisch TE-1100 | Existing Inventory | \$180 | \$13,140 | \$32,850 | \$2,500 | \$35,350 |
| H ₂ S Analyzer | A | Acrulog PPB | 5,500 (x10) | \$0 | \$0 | \$0 | \$4,000 | \$0 |
| Camsco Tube Kit | P | Carbopack X Tube | | | | Included | | \$75,000 |
| Tisch PAS w/ PUF disks | P | TE-1014 PUF Discs | \$4,500 | TBD | | | \$2,500 | \$7,000 |
| Subtotal | | | | | | | | \$296,134 |
| Contingency | 15% | | | | | | | \$44,420 |
| TOTAL | | | | | | | | \$340,554 |

H2S monitors are being purchased from other funds.

2.) How does this support the functions of the Air Quality program?:

This will enable the agency to do a series of air toxics and hydrogen sulfide studies.