UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

National Emission Standards for Hazardous Air Pollutants for Coke Ovens Pushing, Quenching, and Battery Stacks, And Coke Oven Batteries; Residual Risk And Technology Review, 88 Fed. Reg. 55858 (August 16, 2023).	**Docket Nos. EPA-HQ-OAR-2002-0085** **EPA-HQ-OAR-2003-0051**

COMMENTS OF ENVIRONMENTAL INTEGRITY PROJECT, ENVIRONMENTAL LAW AND POLICY CENTER, PEOPLE AGAINST NEIGHBORHOOD INDUSTRIAL CONTAMINATION, CALSTART, CITIZENS ACTION COALITION, ALLEGHENY COUNTY CLEAN AIR NOW, THREE RIVERS WATERKEEPER, VALLEY CLEAN AIR NOW, BREATHE PROJECT, WOMEN FOR A HEALTHY ENVIRONMENT, CLEAN AIR COUNCIL

Submitted online via regulations.gov and email on October 2, 2023

The Environmental Integrity Project ("EIP") and Environmental Law and Policy Center ("ELPC"), People Against Neighborhood Industrial Contamination ("PANIC"), Valley Clean Air Now ("VCAN"), CALSTART, Citizens Action Coalition, Allegheny Clean Air Now ("ACAN"), Three Rivers Waterkeeper, Breathe Project, Women for a Healthy Environment, and Clean Air Council ("Commenters") respectfully submit the comments below to the U.S. Environmental Protection Agency ("EPA" or "the Agency") on its proposed National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Coke Ovens: Pushing, Quenching, and Battery Stacks ("PQBS"), and Coke Oven Batteries; Residual Risk and Technology Review, and Periodic Technology Review ("Coke Ovens Rule") requirements. We appreciate the opportunity to submit these comments.

Commenters strongly support the establishment of a fenceline benzene standard for Coke Oven Batteries, PQBS, and "non-category" sources at the facilities affected by the Proposed Rule and the additional control requirements EPA has proposed. We also respectfully request that EPA make additional revisions to:

- Evaluate available fenceline and ambient monitoring data when reviewing its assessment of cancer and noncancer risk from the facilities affected by this rulemaking and make adjustments to its risk assessment based on this monitoring data where appropriate.
- Improve the fenceline standard by creating a short-term action level for benzene; either eliminating the option for site-specific monitoring plans or improving oversight thereof to ensure near-site sources are monitored instead of modeled; requiring operators to begin monitoring earlier; shortening the time frame for corrective action; making clear that repeated failure to keep benzene concentrations below the annual or short-term action level is a serious violation of the Clean Air Act; and making data reported on fenceline concentrations available sooner and on a more user-friendly platform.

- Improve standards for leaking components at coke oven batteries by adjusting the revised equation for estimating leaks from doors; and considering additional methods to reduce leaks from doors, lids and offtakes.
- Strengthen standards for battery stacks by including a 1-hour standard in addition to the current 24-hour standard.
- Include a standard for coke oven emissions, namely an opacity limit for soaking emissions paired with work practice standards that include a corrective action requirement.
- List co-located by-product recovery plants at coke by-product recovery facilities as a category under Part 63.
- Revise the standards for bypass/bleeder stacks and bypass/bleeder stack flares must achieve 98% destruction/removal efficiency.
- Require compliance with final revisions sooner.

Issues on Which EPA Specifically Requests Comment

In the sections below, Commenters include in underlined text the specific request for comment from EPA and Commenters' response and reasoning.

I. EPA's Significantly Understates Annual and Maximum Hourly HAP Emissions from Coke Oven Batteries, PQBS, and other "Non-Category" Sources Subject to the Proposed Rule. Because EPA's Risk Assessment Is Based on Inaccurate Assumptions About Actual or Allowable Emission Rates, EPA Has Understated Cancer and Noncancer Risk from the Facilities Regulated Under the Proposed Rule.

EPA has specifically requested, "comment and additional data that may improve the risk assessments and other analyses. EPA is specifically interested in receiving any improvements to the data used in site-specific emissions profiles used for risk modeling"

A. Background: EPA Reliance on Emission Inventories to Estimate Downwind Risk.

The Agency estimates that actual emissions of hazardous air pollutants from PQBS sources pose a maximum individual cancer risk ("MIR") of nine per million population exposed (over a lifetime), with an excess cancer risk of 0.02 cases per year. The Agency's projection of risk from so-called "allowable emissions" are virtually identical.[1] When actual emissions for each of the fourteen facilities subject to this rulemaking are taken into account – including sources not subject to the COB/PQBS standards – EPA estimates an MIR of 50 per million lifetime exposures and an excess cancer rate of 0.2 per year. EPA does not include an estimate of "whole facility" cancer risk based on allowable emissions.

[1] National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, and Coke Oven Batteries; Residual Risk and Technology Review, and Periodic Technology Review, 88 Fed. Reg. 55858, 55880 (August 16, 2023).

The Agency projects that proposed revisions to the rule will reduce the MIR to two per million and reduce excess cancers to fewer than 0.02 per year.

To estimate noncancer risk, EPA relies upon a “Target Organ-Specific Hazard Index” (“TOSHI”) that generally treats TOSHI values below 1.0 as insignificant. EPA projects chronic TOSHI values of 0.1 and 0.2 based on actual and allowable emissions from PQBS sources, with arsenic identified as the risk driver. EPA provides a TOSHI value of 2.0 for chronic noncancer risk from actual facility-wide emissions, with hydrogen cyanide as the risk driver. EPA relies upon a “hazard quotient” (“HQ”) derived from EPA’s reference exposure level (“REL”) for arsenic to estimate acute short-term noncancer risk with an HQ of 0.6, based on both actual and allowable emissions of arsenic. As with the TOSHI index, an HQ below 1.0 is usually considered insignificant.

EPA’s estimates of downwind cancer and noncancer risk start with an inventory of the estimated actual and allowable emissions from PQBS sources. Facility-wide emissions are determined by combining actual emissions from both PQBS and “non-category” sources (not subject to this specific NESHAP). EPA then models the emissions from these inventories, taking into account stack height, meteorological conditions, the size and demographic profile of nearby populations and other variables to estimate the downwind concentrations of specific pollutants and the corresponding cancer and noncancer risks. Annual emissions are used to model chronic long-term risk. To model acute risk that result from peak short-term concentrations of pollutants, EPA in this proposal divides the annual emissions of specific pollutants by the number of hours per year (8,760), then assumes that maximum hourly emissions will not exceed twice this amount.

Benzene is a well-known carcinogen that is also a toxic by-product of the coking process. To estimate how emissions from coke oven facilities could elevate benzene levels in nearby communities, EPA modeled facility-wide benzene emissions from both COB/PQBS units and non-category sources, and estimated the maximum benzene concentration, averaged over a year, that it expected to occur at the location nearest the fenceline of each plant. EPA has also attempted to estimate total exposure to HAPs from all point and nonpoint sources in the communities near coke plants and the risks related to those exposures.

B. Summary of Concerns About Unreliability of Emissions Data and Impact on Risk Assessment.

Emissions of hazardous air pollutants are almost never continuously monitored and are sometimes not measured at all. Emissions from some units are periodically measured through stack tests that are typically three hours long, performed once a year at best, and usually conducted under ideal operating conditions. Even then, the tests often measure the concentration of “surrogates” rather than specific hazardous air pollutants. For example, EPA has assumed that air pollution control devices designed to remove particulates will also suppress emissions of hazardous metals like arsenic. But the relationship between those surrogates and HAPs are seldom linear, which means that variations in particulate matter emission rates, for example, do not necessarily correspond to changes in emission rates of arsenic.

As in other NESHAP regulations, the proposal assumes that the emission rates observed during a successful three-hour stack test will stay exactly the same over thousands of hours that will pass until the next stack test and can be multiplied by some throughput factor (e.g., coke output or heat rate) to quantify HAP emissions during this interim. Sources may be required to monitor and correct "deviations" when operating conditions fall outside the parameters observed during the most recent stack test but even if these deviations are frequent, Commenters are unaware of any effort by EPA to demonstrate when and how these deviations will change HAP emission rates.

The Maximum Achievable Control Technology ("MACT") limits derived from stack testing are based on Upper Prediction Limits that accept that emission rates (averaged over three hours) are likely to exceed the MACT limit at least 1% of operating time. Emission rates over one or even two hours can be much higher, so long as emissions averaged over three hours do not exceed the limit. EPA's analysis of acute risks excludes these outliers, even though MACT limits are designed to accommodate them.

EPA has estimated that fugitive emissions, which include large and small leaks from various COB/PQBS sources, account for total HAP emissions from these sources. Fugitive releases are estimated using various emission factors that come with a wide range of uncertainty, and which fenceline monitoring and numerous other studies have shown do not come close to predicting actual HAP emissions. While opacity measures or more advanced optical scanners can distinguish large from small leaks, they cannot easily be used to quantify emissions of HAPs like benzene.

Together, these shortcomings make it impossible for EPA to produce a reasonably accurate inventory of either actual or allowable emissions for HAPs, however hard EPA tries to extract this information from a regulatory system that was never designed to do so. Those defects fatally compromise EPA's assessment of cancer risk, as well as chronic and acute noncancer risk, since the Agency's analysis is built upon assumptions about routine and peak emission rates that are not verifiable.

The absence of reliable emissions data makes the fenceline monitoring standard for benzene that EPA has proposed all the more important. At the very least, the program will help to detect – and require sources to reduce – dangerously high levels of a potent carcinogen that would otherwise remain undetected and drift across plant boundaries and into nearby communities.

C. EPA Does Not Have an Accurate Inventory of Either Actual or Allowable Emissions.

The emission inventories that EPA develops for each rulemaking are the foundation for the models it uses to assess downwind cancer and noncancer risks. But the Agency's representation of actual plant-by-plant emissions of even the most hazardous pollutants, such as benzene, are not reliable and too often easily contradicted by the data available from publicly available sources. For example, EPA's Coke Oven Risk Modeling Database provides the actual and allowable annual emissions and the maximum hourly emissions for both COB/PQBS and other sources at the facilities affected by the proposed revisions.[2] Commenters assume that this spreadsheet represents the facility-wide emissions of specific hazardous air pollutants without taking into account the NESHAP revisions that EPA has proposed in this rulemaking, [3] although we ask that EPA clarify this point.

The actual and allowable emission inventory in EPA's Coke Oven Risk Modeling Database is contradicted by other evidence. For example, EPA's database shows the actual emissions of cyanide compounds (which presumably include hydrogen cyanide) from the Clairton Coke Works are 4.27 tons per year ("tpy") which EPA has determined is also equivalent to the allowable amount. All of that is assumed to come from the by-product plant, which is not addressed in the current rulemaking. In contrast, the Clairton facility reported releasing 15.19 tons of hydrogen cyanide (HCN) to the Toxics Release Inventory ("TRI") in 2022 along with 5 tons (10,095 pounds) of unidentified cyanide compounds. In other words, Clairton has disclosed emitting cyanide compounds at about five times the annual rate displayed in EPA's database. That discrepancy is troubling, since EPA has identified HCN as the primary driver of chronic noncancer risk.

According to the EPA's Coke Oven Risk Modeling Database, Clairton is allowed to emit no more than 4.27 tons of HCN per year. EPA has proposed to limit HCN emissions from battery stacks to 0.0039 lb/ton. Based on the most recent information available, Clairton's remaining batteries have the capacity to produce 4.3 million tons of coke per year.[4] Thus, even after proposed revisions take effect, the Clairton plant would be able to emit up to 16,770 pounds or nearly 8.4 tons of HCN a year from its battery stacks alone, while emissions from the byproduct plant would remain untouched. Again, EPA will have to resolve these conflicting estimates before its model can determine the impact that HCN emissions will have on offsite noncancer health risk.

Hydrogen cyanide is not the only pollutant for which EPA has assumed much lower emissions than elsewhere for the facilities subject to the proposed rule. As illustrated in **Table 1**, EPA's Coke Oven Risk Modeling Database assumes annual benzene emissions from the six remaining by-product recovery facilities of 23.4 tons versus the 82.5 tons the six plants reported to the TRI in 2022. For example:

- The EES Coke Battery reported 45 tons of benzene emissions to the TRI in 2022, more than 10 times the 4.39 tons of facility-wide emissions in EPA's database;

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[2] Coke Oven Risk Modeling Database, Document ID EPA-HQ-OAR-2002-0085-0809 Attachment 7 (Appendix-C-1-Data-Memo_ModFile).

[3] We were unable to obtain a complete inventory of the COB/PQBS and non-category emissions that EPA anticipates following the propose revisions, although we understand most reductions will result from the installation of controls at bypass/waste stacks at non-recovery ("HNR") coke plants. Absent such information, it is impossible to review EPA's "post-rule" estimate of risk, since those estimates will vary according to projected future emissions.

[4] 2022 Mon Valley Works Clairton Plant: Operations and Environmental Report, p. 3 at https://www.ussteel.com/documents/40705/71641/USS+Clairton+Works+Operations+Environmental+Report+2022.pdf/670a411b-11a5-17ce-72c7-1c246125c561?t=1678740507328/5734848a-2bbf-6448-9cab-7d008a23f160?t=1646082857897.

- Clairton Coke Works reported 15.2 tons of benzene emissions to the TRI in 2022, more than six and a half times the 2.3 tons of facility-wide emissions in EPA's database;

- ABC Coke reported 7 tons of benzene emissions to TRI, or twice the facility-wide emissions in EPA's database.

Notably, the benzene emissions that each of these three facilities reported to TRI are higher than both the actual and allowable emissions that EPA's Coke Oven Risk Modeling Database shows for the same plants.

Table 1: Comparison of benzene emissions reported by the six remaining by-product coke oven facilities in the 2022 Toxics Release Inventory (TRI) versus the emissions included in the EPA Coke Oven Risk Modeling Database.

Facility	2022 TRI Total Benzene Emissions (tpy)	EPA Coke Oven Risk Modeling Database "Actual" Benzene Emissions (tpy)
DTE/EES	45.05	4.39
U.S. Steel Clairton	15.21	2.32
ABC Coke	7.02	3.53
Cleveland-Cliffs Burns Harbor	8.60	6.62
Cleveland-Cliffs Warren	4.53	4.24
Cleveland-Cliffs Monessen	2.12	2.33
Total	**82.54**	**23.43**

Based on the sampling EPA conducted for this rulemaking, actual benzene emissions are likely to be even higher than these sources have reported to the Toxics Release Inventory. For this rulemaking EPA estimated the maximum annual average benzene concentration that was likely to occur at the perimeter of each of four coke by-product facilities based on their facility-wide emissions, adjusted to reflect the new limits for certain sources that EPA has proposed for this rule. The Agency also required each plant to monitor actual benzene concentrations at specific locations along their fencelines via continuous sorbent tube monitors that collected data over successive two-week monitoring periods. **Table 2** compares EPA's predictions to the average concentrations measured at monitoring locations that recorded the highest average benzene levels over six months.

Table 2: Comparison of modeled maximum one-year average benzene fenceline concentration versus six-month average concentration measured at the fenceline monitor location recording the highest average benzene concentration.

Facility	Modeled	Measured at Individual Monitor		Monitor with Highest 6-Month Average Concentration
	Maximum 1-Year Average Fenceline Concentration ($\mu g/m^3$)	Highest 6-Month Average Concentration ($\mu g/m^3$)	Highest 6-Month Average Concentration Adjusted* ($\mu g/m^3$)	
ABC Coke	2	14.17	13.46	F12
Cleveland-Cliffs Burns Harbor	0.3	2.64	2.15	S02
DTE/EES	1	3.44	2.81	Sampler 04
SunCoke Haverhill	0.00006	0.55	0.11	02
U.S. Steel Clairton	0.9	25.89	23.52	PT11

*Concentration adjusted to account for background benzene concentration by subtracting lowest concentration of benzene measured during two-week sampling period from concentration measured at monitor (similar to delta c calculation).

The average measured concentrations at these monitoring locations are actually far higher than maximum one-year average concentrations predicted by EPA. For example, EPA projected the maximum annual average benzene concentration at the Clairton Coke Works boundary would not exceed 0.9 $\mu g/m^3$, but measured concentrations at the PT-11 fenceline monitor averaged 25.89 $\mu g/m^3$ over the six-month sampling period. When background benzene emissions from sources outside Clairton are excluded, the PT-11 average is 23.5 $\mu g/m^3$, more than 23 times the maximum rate that EPA predicted.[5] The data provide further evidence that EPA's emission inventory for the facilities affected by this rule is likely to underestimate downwind concentrations of specific HAPs and consequently the cancer and noncancer risk associated with these pollutants. These discrepancies make the establishment and enforcement of fenceline monitoring and corrective action critically important to both the MACT and the residual risk requirements of Section 112 of the Clean Air Act.

We understand that fenceline monitoring results reflect the impact of current benzene emissions, while EPA's modeling adjusted emission rates below current levels for some units based on the revisions to the MACT standard that it has proposed. But based on the analysis of materials in EPA's docket, the proposed revisions will have only a limited impact on emissions from coke byproduct recovery plants.

[5] EPA's proposal assumes that the lowest monitored value during any two-week period reflects background concentrations. Accordingly, the six-month average results in Table 2 were adjusted to subtract the lowest monitored value from the benzene concentrations recorded at each of the monitors for each two-week sampling period.

D. EPA's Evaluation of Acute Risk Is Based on Maximum Hourly Emission Rates, and Not upon the Three-Hour Averages Used to Determine Compliance with MACT Limits Derived from Stack Test Results from the Best Performing Sources.

EPA has evaluated acute risk based on the assumption that the maximum hourly emissions will not be more than twice "actual" emissions.[6] As illustrated in **Table 3**, EPA has in many cases assumed that the maximum hourly emission rate (i.e., the rate used to estimate acute risk) would be far less than the hourly emission rate derived from annual allowable emissions. EPA does not explain why it expects peak hourly emission rates to fall so far below an average hourly rate calculated in this manner.

Table 3: Examples of emission unit-pollutant combinations for which EPA has assumed acute risk emissions are far less than allowable emissions.

Facility	Emission Unit Description	Pollutant	Acute Emissions (tpy)	Allowable Emissions (tpy)	Acute Emissions as % of Allowable Emissions
U.S. Steel Clairton	Coke Oven B Battery Underfiring	Benzene	0.30	2.96	10%
Cleveland-Cliffs Monessen	Coke Oven Battery 2 Underfiring (Combustion Stack)	Hydrochloric Acid	1.18	8.83	13%
DTE/EES	Battery Heating Stack	Toluene	1.43	8.13	18%
Cleveland-Cliffs Warren	No. 4 Coke oven battery - Oven Underfiring	Hydrogen Fluoride	0.33	1.72	19%
Cleveland-Cliffs Burns Harbor	EU512-08 battery #1 Underfire	Naphthalene	0.29	1.37	21%

EPA's proposal includes emission limits based on short-term stack test results which are then adjusted using the Upper Prediction Limit ("UPL") approach to ensure that the best performing sources can meet these limits 99% of the time. In other words, the UPL adjustments

[6] Column Z in EPA's Coke Oven Risk Database identifies the "acute" emissions in tons per year from various sources at facilities regulated under EPA's proposal. As the annual totals in Column Z are twice the actual ton per year totals in Column X, we assume the former were identified to provide a basis for calculating maximum hourly emission rates.

concede that the three hour average emission rate may exceed the limit 1% of operating time during the course of a year, or about 87 hours a year.[7] As the Agency explains,

> "Each MACT standard is based on limited data from sources whose emissions are expected to vary over their long term performance. For this reason, and because sources must comply with the MACT standards at all times, consideration of variability is a key factor in establishing these standards. This variability in emissions is due to numerous factors, including operation of control technologies, variation in combustion materials and combustion conditions, variation in operation of the unit itself, and variation associated with the emission measurement techniques. In order to account for variability that is reflected in the available data that we use to calculate MACT floors, we use the UPL."

When evaluating acute risk caused by peak emission rates, these outliers are important and can't be excluded from an evaluation of acute risks. In short, EPA may not assume that even the best performing source may exceed MACT limits 1% of the time but then exclude these outliers and their impact on acute risk when calculating peak emission rates.

More significantly, EPA's evaluation of acute risk is based on maximum **hourly** emission rates, and not upon the three-hour averages used to determine compliance with MACT limits derived from stack test results from the best performing sources. But HAP emissions over the course of an hour (or even two hours) may be significantly higher than the corresponding MACT limit, so long as emissions averaged over three hours stay below that limit. For example, EPA's memo on the application of the UPL approach to calculate the MACT floor explains how the results of stack tests from 18 different sources were adjusted using the UPL approach to arrive at a PM emission rate of 79.07 mg/dscm that best performing sources should be able to meet 99% of the time.[8] But as illustrated by Charts 1 and 2 in the memo, the emission rates during at least 10 of the 90 one-hour test runs were higher than 79.07 mg/dscm, which is based on three hour test runs.

Also, EPA has estimated that 38% of the total benzene emissions from facilities affected by the proposed rule come from fugitive sources. Emissions from fugitive sources are notoriously hard to measure and the emission factors used to quantify and report releases come with a wide range of uncertainty. The fenceline data that EPA has collected shows that two-week benzene levels at a single monitoring location can also vary widely from one two-week period to the next, suggesting that undetected leaks may cause spikes in offsite concentrations of this carcinogen.

Since EPA has made some attempt to evaluate the total cumulative risk to communities from both COB/PQBS facilities and other sources, we are submitting the attached data

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[7] Sources may not exceed the UPL adjusted limits during three-hour test runs, but stack tests are infrequent and emissions are almost never measured on a continuing basis. While EPA may require sources to "assure" compliance by continuously maintaining operating parameters at certain levels, the Agency has said that any deviation from operating limits is "not necessarily" a violation and is generally unable to quantify HAP emissions from deviations that are reported.

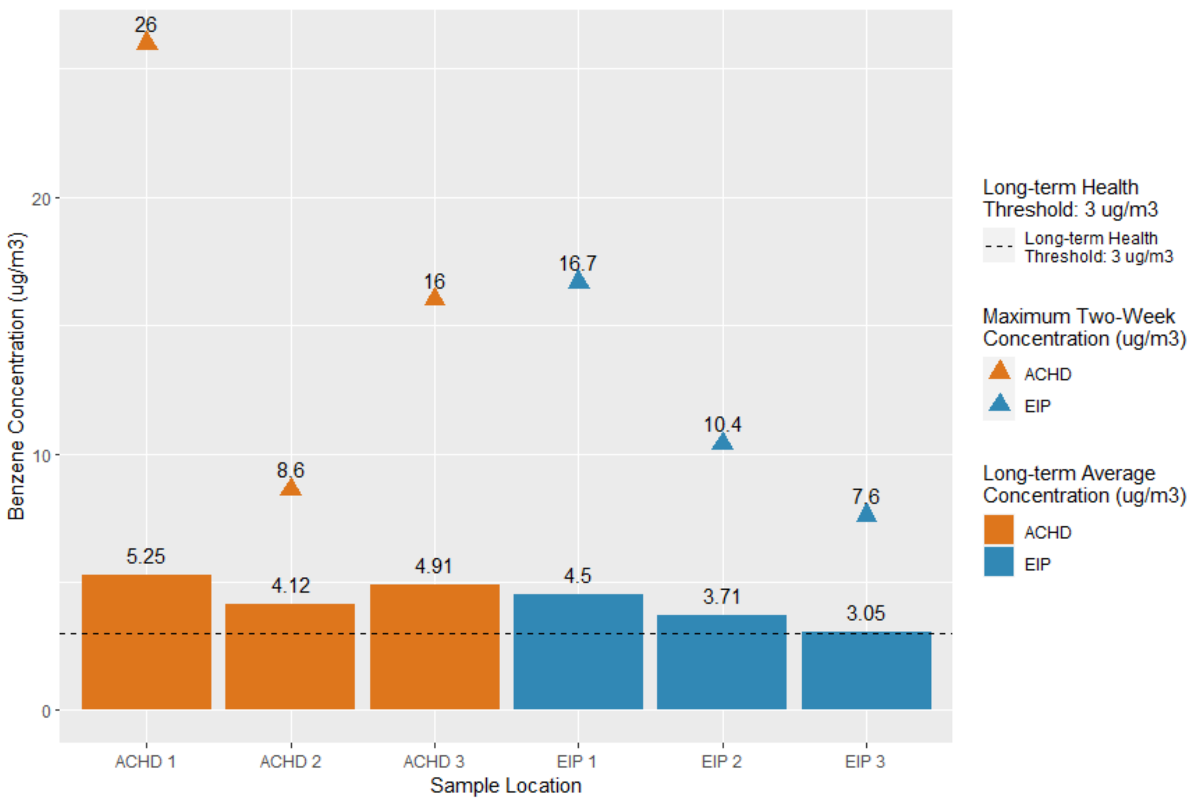
[8] Memorandum from Donna Lee Jones, U.S. Env't Prot Agency, Office of Air Quality Planning and Standards, *Use of the Upper Prediction Limit for Calculating MACT Floors* (September 2, 2021) at 12–15.

documenting average and maximum benzene levels based on long-term sorbent tube monitoring by the Allegheny County Health Department ("ACHD") and the Environmental Integrity Project.[9]

1. Column F of the first chart (titled "ACHD Data") shows the benzene concentration averaged over 18 months of sorbent tube sampling (EPA Method 325A/B) by ACHD at 16 different monitoring locations, while Column H identifies the maximum two-week average at the same sites over the same period. The 18-month concentrations at Monitors 10, 11, and 14 measured 5.25, 4.12, and 4.91 µg/m^3, respectively, with maximum two-week concentrations of 26, 8.6, and 16 µg/m^3 (**Figure 1**).

2. With the cooperation of local residents, EIP placed sorbent tubes (EPA Method 325A/B) on eight residential properties in Glassport and Clairton that sampled two-week average benzene concentrations between December 2021 and June 2023. As indicated in Columns F and H of the second chart (titled "EIP Data"), three locations averaged benzene concentrations of 4.50, 3.71, and 3.05 µg/m^3 over the entire monitoring period, while maximum two-week readings of 16.70, 10.40, and 7.60 µg/m^3 were found at the same locations (**Figure 1**).

Figure 1: ACHD and EIP monitors with 18-month average concentrations over the long-term health threshold.



[9] See **Attachment A**.

Furthermore, ACHD operates a continuous benzene monitor in Liberty, PA, which is 1.3 miles from U.S. Steel's Clairton Plant fenceline. This monitor measures 24-hour average concentrations of benzene every three days. Between January 2014 and March 2023, the average concentration measured at the Liberty monitor was 4.20 µg/m^3. There were also 13 days during this period where the daily concentration exceeded 29 µg/m^3, with the highest one-day concentration reaching 95 µg/m^3.

The attachments include a map that indicates the location of each monitor relative to Clairton Coke Works and other U.S. Steel facilities in the Mon Valley, along with a description of EIP's sampling methodology.[10] The data is noteworthy for several reasons:

1. Eighteen-month average benzene levels at six locations exceeded 3 µg/m^3, which is the reference exposure limit ("REL") established by California's Office of Environmental Health Hazard Assessment ("OEHHA") for both eight hour and chronic exposures.[11] Long-term exposure to benzene concentrations greater than the 3 µg/m^3 OEHHA standard may result in harm to people's immune systems.

2. Exposure to benzene higher than 29 µg/m^3 for anywhere from one to fourteen days exceeds the acute Agency for Toxic Substances and Disease Registry ("ATSDR") Minimum Risk Level ("MRL"), which is also meant to keep benzene from weakening immune systems. While the maximum two-week values at several monitors did not exceed the ATSDR MRL, they are high enough to suggest that benzene concentrations within those periods were likely to have done so for at least a day and perhaps longer.

3. According to the CA OEHHA, each microgram of benzene per cubic meter is likely to result in 2.9 excess cancers per hundred thousand people. Applying that standard, the benzene concentrations at five of these locations would result in more than one excess cancer per ten thousand, exceed the outer limit of the lifetime cancer risks that EPA considers "acceptable."

We respectfully request that EPA evaluate available monitoring data when reviewing its assessment of cancer and noncancer risk from the facilities affected by this rulemaking and make adjustments to its risk assessment based on this monitoring data where appropriate.

Given the deficiencies in EPA's risk assessment, Commenters strongly support EPA's proposed fenceline monitoring standard and the proposed annual action level of 3 µg/m^3. As discussed above, benzene concentrations measured at the fenceline as part of EPA's Clean Air Act ("CAA") Section 114 Information Collection Request ("ICR") greatly exceeded modeled concentrations. As such, this implies that benzene concentrations and resulting negative health effects are underestimated in surrounding communities. Commenters believe that the fenceline standard provides a strong mechanism by which benzene concentrations, and hence risk, can be reduced in the vicinity of coke oven facilities.

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[10] See **Attachment B**.

[11] Benzene - OEHHA (ca.gov)

II. Commenters Strongly Support the Establishment of a Fenceline Standard for the Proposed Rule, but EPA Should Establish a Short-Term Action Level and Further Strengthen Monitoring, Corrective Action, and Reporting Requirements.

EPA requested comment on multiple issues related to fenceline monitoring, including whether "to establish a standard time frame for compliance with actions listed in a corrective action plan...", whether and how to adjust the frequency of monitoring where fenceline concentrations are consistently low, how to account for offsite contributions to fenceline benzene levels, and "suggestions for other ways to improve the fenceline monitoring requirements."

A. Background: EPA's Proposed Fenceline Standard for Benzene

EPA proposes to require facilities affected by this rule to install at least twelve method 325A/B passive samplers along the fenceline of their plants, and to determine the benzene concentration over each two-week successive sampling period. For each sampling period, the lowest benzene concentration (which is presumed to represent the "background" level) would be subtracted from the highest to obtain a "delta c" value. If the "delta c" value averaged over any rolling 26 2-week sampling periods exceeded an action level of 3 $\mu g/m^3$, the source would be required to identify and clean up the emission source causing the problem. Any facility that remained above the action level after 45 days would need to submit a written corrective action plan to the state with a schedule for returning into compliance, although the proposed rule includes no deadline for compliance.

While the lowest benzene concentration measured during any two-week sampling period is the presumptive background level, the proposal would allow regulated facilities to submit a site-specific monitoring plan quantifying offsite sources that elevate benzene levels at their own fencelines. If a facility's site-specific monitoring plan is approved by EPA, it may subtract those offsite contributions when tabulating the delta c values used to determine whether the action level has been exceeded.

B. Commenters Support EPA's Proposed Action Level for Benzene.

Commenters strongly support the establishment of a fenceline benzene standard. As discussed above, the methods used to estimate or measure either short-term or long-term emissions of benzene and other HAPs are inadequate and are not accurate enough to estimate downwind exposure to these dangerous pollutants. A fenceline limit is therefore critical to prevent the undetected or unreported release of HAPs in amounts that exceed NESHAP limits and which pose short and long-term risks to nearby communities. Because HAP emissions from the PQBS, and coke oven batteries at "non-category" sources at facilities affected by this rule can pose significant health risks to nearby communities, it is critical that regulators and nearby residents have access to data on measured HAP concentrations at the fenceline of these sources. Four years after implementation of a similar NESHAP standard for petroleum refineries, the monitoring data show that fenceline concentrations of benzene have gradually declined at most refineries.[12]

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[12] See **Attachment C.**

Commenters support EPA's proposed 3 µg/m^3 action level and agree that it represents a reasonable estimate of the maximum annual delta c benzene that should occur at facilities complying with both existing and the proposed new NESHAP requirements. EPA's proposed standard takes into account the emissions and fenceline monitoring results reported by facilities in response to Section 114 ICR requests, is informed by dispersion modeling, and takes into account the uncertainty associated with estimating emissions from fugitive emission sources.

The action level takes into account emissions from all sources within the affected facilities, including the "non-category" emission units not subject to the COB/PQBS rules. Commenters agree with EPA's decision not to allow any emissions from these non-category to be excluded as "background" when calculating the delta c values that determine whether the action level has been exceeded. In addition to being more protective of public health and ensuring more comprehensive corrective actions, EPA's decision recognizes that at some level, it may be impractical if not impossible to quantify the contribution that each onsite sources makes to fenceline benzene levels over the course of a year. EPA's proposal is also consistent with EPA's proposed NESHAP revisions for the synthetic organic chemical manufacturing industry/group I & II polymers and resins categories ("HON, SOCMI and P&R I and II").

C. EPA Should Establish a Short-Term Action Level and Further Strengthen Fenceline Monitoring, Corrective Action, and Reporting Requirements.

Both the Agency for Toxic Substances and Disease Registry ("ATSDR") and the California Office of Environmental Health Hazard Assessment ("OEHHA") recognize that short-term exposure to benzene can be harmful, and as a result, both agencies have set reference concentrations above which adverse noncancer health effects are possible.[13] As previously discussed, EPA has underestimated maximum hourly or short-term emissions from the affected facilities and has consequently underestimated acute or short-term risk resulting from these higher peak emission rates. The Mon Valley benzene monitoring data that Commenters have provided show that benzene levels at locations near the Clairton plant exceed short-term ATSDR and OEHHA risk levels. EPA should also establish a short-term action level (in addition to the 12-month action level) based on one of these reference concentrations to safeguard public health in downwind communities.

For example, EPA could establish a two-week action level (i.e., an action level based on one sampling period) using ATSDR's minimal risk level ("MRL") for acute-duration (1–14 days) inhalation exposure of 29 µg/m^3. Alternatively, EPA could establish an action level based on a longer averaging period (e.g., four or six weeks) and use ATSDR's MRL for intermediate-duration (15–364 days) inhalation exposure of 19 µg/m^3. A third potential option would be to set a short-term action level based on a number of exceedances above a certain threshold (e.g., an action level that would be exceeded if a facility had more than two sampling periods in a given year with delta c values that exceeded OEHHA's acute (one-hour) reference exposure level of 27 µg/m^3). Regardless, given the risks from benzene in downwind communities, EPA should

[13] Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Benzene* (2007) at 21–26; James F. Collins, *Benzene Reference Exposure Levels: Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D1* (2014) at 2, 44–57.

establish a short-term action level for benzene in addition to the 12-month rolling average action level to protect public health in downwind communities.

D. EPA Should Make Improvements to the Site-Specific Monitoring Plan Requirements to Address the Deficiencies Recently Noted by the Office of Inspector General Audit for Fenceline Monitoring for Refineries.

The proposed rule allows coke oven operators to treat the lowest benzene concentration measured during any two-week period as "background" and to subtract it from the delta c values used to determine compliance with the action level. But as an alternative, the proposal would also allow coke oven operators to quantify and exclude any contribution that offsite upwind sources make to their own fenceline benzene levels, so long as those adjustments are consistent with site-specific monitoring plans ("SSMPs") approved by EPA.[14] Commenters are concerned that this provision could be manipulated to avoid responsibility for onsite benzene emissions that would otherwise trigger the action level and the corresponding corrective action requirements.

In September of this year, EPA's Office of Inspector General ("OIG") conducted an audit of the oversight of the benzene fenceline monitoring requirements for refineries.[15] The report included a finding that SSMP's did not include required monitoring needed to verify offsite source contributions to fenceline benzene levels. As a result, EPA-approved SSMPs for refineries relied solely upon modeling that likely overestimates near-field source emissions, resulting in unwarranted downward adjustment to the delta c value.

The proposed regulatory text for the coke ovens NESHAP clearly requires monitoring stations, to determine the near-field source concentration contribution.[16] But so did the benzene fenceline rule for refineries, and EPA has not explained why the Agency has approved SSMPs which, according to the OIG, do not include the required initial or follow-up monitoring. Commenters ask that EPA explain how the proposed SSMP requirements will address concerns raised in the IG report. More specifically, we ask that EPA respond to the following concerns and recommendations:

1. Do either EPA or state regulators charged with implementing these requirements have the resources to review Site-Specific Monitoring Plans to ensure they are reasonable and comply with applicable requirements? If the answer is yes, will the Office of Air and Radiation review the current SSMPs that refineries have obtained to ensure the monitoring needed to measure the impact of offsite sources (as recommended by the OIG)?

2. If EPA insists on preserving SSMPs as a method for excluding benzene from offsite sources, how can the monitoring requirements that support these

[14] 88 Fed. Reg. 55858, 55887 (August 16, 2023).
[15] Env't Prot Agency, Office of Inspector General, *Oversight to Ensure that All Refineries Comply with the Benzene Fenceline Monitoring Regulations*, Report No. 23-P-0030 (Sept. 6, 2023), https://www.epaoig.gov/sites/default/files/reports/2023-09/_epaoig_20230906-23-p-0030_errata.pdf (last visited Sept. 19, 2023) [hereinafter "OIG Audit"].
[16] Batteries Proposed Regulatory Text, 40 C.F.R. § 63.314(i)(1)(ii).

exclusions be made more transparent and enforceable? For example, EPA could revise the language proposed in § 63.314 (i)(1)(ii): "identify the location of the additional monitoring stations that must be used to determine the uniform background concentration and the near-field source concentration contribution. Modeling may not be used in lieu of monitoring to identify near-field sources that an SSMP applicant alleges contribute significantly to fenceline benzene levels at the applicant's facility."

3. Can SSMP's exclude benzene emissions from offsite sources that are owned or operated by the same companies that own or operate sources subject to the fenceline standards EPA has proposed?

E. EPA Should Establish Clear and Enforceable Requirements for Fenceline Monitoring.

The OIG report found that the data for some two-week monitoring periods had not been reported by all refineries, which could signal that some facilities are not reporting concentrations that exceed the action level.[17] OIG recommended that EPA enhance oversight to ensure exceedances of the action level are properly identified, since the failure to do so could result in communities being exposed to "higher benzene concentrations than would be the case if corrective action" was required.[18]

For example, between 2019–2021, five refineries did not submit any monitoring data for at least one two-week sampling period, with one refinery missing data for thirteen sampling periods.[19] The 2015 Refinery Rule requires refineries to report all monitoring data for each two-week sampling period to EPA on a quarterly basis. EPA should make clarify that the failure to report fenceline monitoring results is a serious violation of the Clean Air Act. As discussed further below, EPA can improve compliance with monitoring rules by requiring that fenceline data be posted online within 15 days of the end of each two-week sampling period.

F. EPA Should Set Clearer Standards for Corrective Action Plans, With Deadlines for Completing Corrective Action and for Bringing Fenceline Benzene Concentrations Below the Action Level.

The OIG report pointed out that while benzene levels have declined at many refineries since adoption of the fenceline standard, some refineries continue to exceed the annual action level year after year. **Attachment C**, for example, identifies five refineries that have exceeded the action level in three out of the last four years. That does not include several more refineries that have kept benzene below the action level by subtracting contributions from offsite sources through EPA-approved SSMP's questioned in the OIG report.

EPA's proposal gives refineries five days to complete a root cause analysis once the action level has been exceeded, and 45 days to complete corrective action. If benzene exceeds

[17] OIG Audit at 19.
[18] *Id.* at 19.
[19] *Id*. at 20.

the action level after 45 days, the facility is required to submit a written corrective action plan that EPA can review. EPA proposes to allow facilities to determine, based on their own analysis of their operations, the action that must be taken to reduce air concentrations below the action level and there is no deadline for complying with the written corrective action plan. Nor does EPA's current proposal list the elements that must be included in an action plan.

EPA has acted arbitrarily and capriciously by choosing to allow facilities to determine the specific corrective actions without any guidance from EPA.[20] EPA has treated the coke ovens source category differently from the refinery sector, where EPA at least established guard rails for what a root cause analysis and corrective action may include for exceedances of the benzene action level.[21] Also, EPA should also require more frequent sampling at more locations for facilities that continually fail to keep fenceline benzene below action levels, as the additional monitoring data could be used to better identify and clean up the emission sources causing the problem.

Finally, EPA should establish a standard time frame for compliance with actions listed in a corrective action plan. As previously discussed, where it is evident from the Section 114 ICR monitoring results that facilities are underreporting benzene emissions, and EPA's risk assessment is based on reported emissions, EPA has underestimated risks from coke ovens in these proposed revisions to Subparts CCCCC and L of Part 63. Short term exposure to benzene is demonstrably harmful.[22] If operators are held to a timeline by which they must repair the cause of benzene exceedances, these repairs are more likely to be made expeditiously. Accordingly, EPA can better reduce both short- and long-term impacts of exposure to benzene by establishing a standard timeframe for compliance with actions listed in a corrective action plan.

G. EPA Should Move Up the Deadlines for Full Implementation of the Rule's Requirements.

EPA is proposing that fenceline monitoring begin one year after the publication date of the final rule.[23] Additionally, operators are not required to perform a root cause analysis or corrective action related to a monitored annual average exceedance unless the action level is exceeded three years after publication of the final rule.[24]

Operators should be required to commence monitoring 90 days after publication of the rule. As EPA acknowledges, the monitors are a "a cost-effective, accurate technique for measuring concentrations of pollutants" from fugitive emissions.[25] Additionally, because the

[20] *See Transactive Corp*, 91 F.3d at 237 ("A long line of precedent has established that an agency action is arbitrary when the agency offered insufficient reasons for treating similar situations differently.")
[21] 40 C.F.R. § 63.658(g)(1)-(4) ("Root cause analysis and corrective action may include, but is not limited to[…]"
[22] *See* supra Note 13.
[23] 88 Fed. Reg. 55858, 55893 (August 16, 2023).
[24] *Id*. at 55893.
[25] *Id.* at 55886. EPA also estimated total costs for fenceline monitoring to be "approximately $120,000 per facility per year for testing, operation and maintenance of fenceline monitors, and recordkeeping and reporting." Env't Prot. Agency, *Economic Impact Analysis for the Proposed National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, Residual Risk and Technology Review; National Emission*

passive samplers are not difficult to install and operate[26], and because at least five facilities have already performed fenceline monitoring for the CAA Section 114 requests,[27] operators do not need additional time to install passive samplers and begin monitoring. Accordingly, EPA should require operators to install monitors upon promulgation of the rule and begin monitoring within 90 days.

Given the high risks associated with the high benzene levels that the Section 114 monitoring has shown at the fenceline of by-product recovery plants, EPA should require corrective action sooner. Specifically, corrective action requirements should be effective within two years of publication of the final rule. Further, this should specifically apply if the 3 $\mu g/m^3$ action level is exceeded two years after the publication of the final rule, and on a rolling basis thereafter.

Although the HON, SOCMI and P&R I and II rule also proposed to require root cause analysis and corrective action three years after the publication date of the final rule, EPA's reasoning was that sources would complete one year of monitoring and be able to compare the two subsequent years' worth of monitoring post installation of controls to reduce specific HAPs.[28] In the present instance, none of the revisions in Subparts CCCCC or L of Part 63 would require coke ovens to install specific controls to reduce their benzene emissions.

H. EPA Should Require More Frequent Reporting and More Timely Publication of Fenceline Data.

EPA is requiring that sources report electronically to EPA's Compliance and Emissions Data Reporting Interface ("CEDRI") on a quarterly basis, and data will subsequently be made available to the public online.[29] Commenters believe these reporting requirements can be improved to give the public more timely access to the data and to improve its transparency and utility.

First, EPA should require that coke oven facilities submit fenceline monitoring data to CEDRI every two weeks rather than every quarter. As part of a recent Consent Decree for a chemical manufacturing facility, those sources are required to publish bi-weekly sampling period results within 30 days of the end of the sampling period.[30] EPA has not explained why coke oven facilities cannot fulfill these same reporting requirements.

Standards for Hazardous Air Pollutants for Coke Oven Batteries Technology Review, EPA-452/R-23-005 (July 2023) at 1-14 [hereinafter "Economic Impact Analysis"].

[26] "The sampling protocols are simple, which reduces the risk of inter-operator error, the cost of sampling, and the level of training needed for sampling personnel." Env't Prot. Agency, *Engineering Issue*, "Passive Samplers for Investigations of Air Quality: Method Description, Implementation, and Comparison to Alternative Sampling Methods," https://clu-in.org/download/issues/vi/vi-passive-samplers-600-r-14-434.pdf (last visited Sept., 25, 2023).

[27] *See* 88 Fed. Reg. 55858, 55885 (August 16, 2023).

[28] New Source Performance Standards for the Synthetic Organic Chemical Manufacturing Industry and National Emission Standards for Hazardous Air Pollutants for the Synthetic Organic Chemical Manufacturing Industry and Group I & II Polymers and Resins Industry, 88 Fed. Reg. 25080, 25178 (April 25, 2023).

[29] 88 Fed. Reg. 55858, 55888, 55892 (August 16, 2023).

[30] Consent Decree, App. 2.2 at 1-2, *United States of America v. Chevron Phillips Chemical Co.*, No. 4:22-cv-737, https://www.epa.gov/system/files/documents/2022-03/chevronphillipschemicalcompanylp-cd.pdf (**Attachment D**).

Second, EPA does not specify when fenceline monitoring data submitted via CEDRI will be made available to the public. EPA states that "[o]ne objective for this monitoring program is to identify fugitive emission releases more quickly, so that corrective action can be implemented in a timelier fashion than might otherwise occur without the fenceline monitoring requirement."[31] However, such infrequent reporting (every quarter) contradicts the stated intent of the fenceline monitoring requirement. As such, EPA should follow the same requirements within the Consent Decree for the chemical manufacturing facility: coke oven facilities should have to submit fenceline data within 15 days of the end of each two-week sampling period.

Fourth, in addition to submitting fenceline monitoring data to EPA, coke oven operators should be required to post bi-weekly sampling period results to their company websites, as is already required of many different chemical plants under federal consent decrees. These reports should include a map of all the monitoring sites located along the fenceline, a table providing the coordinates for each site, the 2-week monitoring values at each fenceline location for at least the last three years (72 sampling periods), and the current average delta c concentration for the most recent year (26 sampling periods) and indicate whether the action level has been exceeded.

This information is already available online for the chemical plants pursuant to federal CAA consent decrees and is much easier for the public to understand and access. For examples, please see **Attachment D** and the link provided in Footnote 32 below. While Commenters understand the need to submit the same reports to EPA, the WebFIRE interface is complex and since the monitoring data is not posted until nearly two months after regulated sources submit their quarterly reports, information about the two-week concentrations of benzene at a particular refinery during January is typically not available to the public until late June. Finally, prompt public disclosure of benzene monitoring data will make the failure to collect and report such information more visible, will give regulators and communities quicker access to information about dangerous spikes in benzene levels, and will give companies a "real time" incentive to move quickly to clean up emission sources causing the problem.

<u>EPA has specifically requested comment on the content, layout, and overall design of the templates of the reports to CEDRI, which are addressed below.</u>

Fifth, as EPA begins to collect more fenceline monitoring data, they should develop a plan to incorporate all the data into one location. EPA currently maintains a website, Fenceline Monitoring Data Collection and Reporting, that houses all the benzene data from refineries.[32] The fenceline monitoring data required by the coke ovens fenceline standard should be incorporated into an improved version of this data dashboard, developed with feedback from communities, to allow the public and regulatory agencies to access and analyze the data more easily. In addition, EPA should provide an HTTP application programming interface ("API") or other widely recognized standard for the fenceline monitoring dashboard and should be documented using a widely recognized standard such as OpenAPI. By incorporating an API into the data dashboard EPA maintains, regulators and communities can quickly download and analyze various subsets of the database without having to download data for individual facilities

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[31] 88 Fed. Reg. 55858, 55887 (August 16, 2023).

[32] https://awsedap.epa.gov/public/extensions/Fenceline_Monitoring/Fenceline_Monitoring.html?sheet=MonitoringDashboard.

and reporting periods. At minimum, EPA should incorporate a variety of bulk download options into the dashboard. Implementing these changes can help ensure that the data is transparent and accessible to the public, facilitating greater accountability and public participation in decision-making and, if necessary, enforcement.

Finally, EPA should also require that a corrective action plan be submitted via CEDRI and subsequently available via WebFIRE. These plans should also be sent to state environmental agencies. Requiring the same data to be submitted to state agencies and made publicly available to community members at the same time allows regulators to detect non-compliance earlier and communities are simultaneously informed of dangerous, higher concentrations of chromium (and lead if EPA includes lead in the fenceline standard, as they should) with less delay.

III. EPA Should Improve Standards for Leaking Components at Coke Oven Batteries.

EPA acknowledges that leakage from coke oven doors is driving facility level cancer risks.[33] Accordingly, EPA is proposing to adjust the equation for estimating emissions from leaking doors. Additionally, EPA is proposing lower limits for leaks for by-product facilities' doors, lids and offtakes. Commenters point to an error made by EPA in revising the equation for estimating the door leaks and urge EPA to adjust the equation as described below. Finally, Commenters support the reduced limits for by-product facilities' doors, lids and offtakes, but also encourage EPA to examine variable pressure regulation technology to further reduce leaks from these components at by-product coke oven batteries.

A. EPA's Revised Equation for Estimating Leaks from By Product Coke Oven Doors Should be Adjusted.

As part of the technology review under CAA Section 112(d)(6), EPA is proposing an updated, revised version of the equation that has been used historically to estimate coke oven emissions ("COE") from leaking oven doors.

EPA specifically solicits comment regarding the results of the Method 303 tests and how those results could affect the door leak equation proposed.[34]

Commenters understand EPA's rationale for proposing to modify the equation used to estimate coke oven emissions from door leaks—namely, the assumption that the percent leaking doors visible only from the bench ($PLD_{bench\ only}$) is correlated with the percent leaking doors visible from the yard (PLD_{yard}). However, based on Commenters' analysis of door leak data collected as part of EPA's CAA Section 114 ICR, we believe EPA should adjust the proposed modification to the door leak emission equation.

EPA is specifically proposing to change how the percent leaking doors visible only from the bench ($PLD_{bench\ only}$) is estimated. Instead of assuming a fixed value of 6% for $PLD_{bench\ only}$, EPA proposes to calculate $PLD_{bench\ only}$ by multiplying PLD_{yard} by 0.94. (This factor of 0.94 is based on the ratio of $PLD_{bench\ only}$ to PLD_{yard} measured at U.S. Steel's Clairton facility in 1981.)

[33] 88 Fed. Reg. 55858,55897, 55881 (August 16, 2023).
[34] *Id*. at 55889.

To verify this proposed change, EPA requested that $PLD_{bench\ only}$ and PLD_{yard} data be collected at two facilities. However, EPA was not able to analyze the data prior to the publication of the draft rule, so Commenters' present their analysis below.

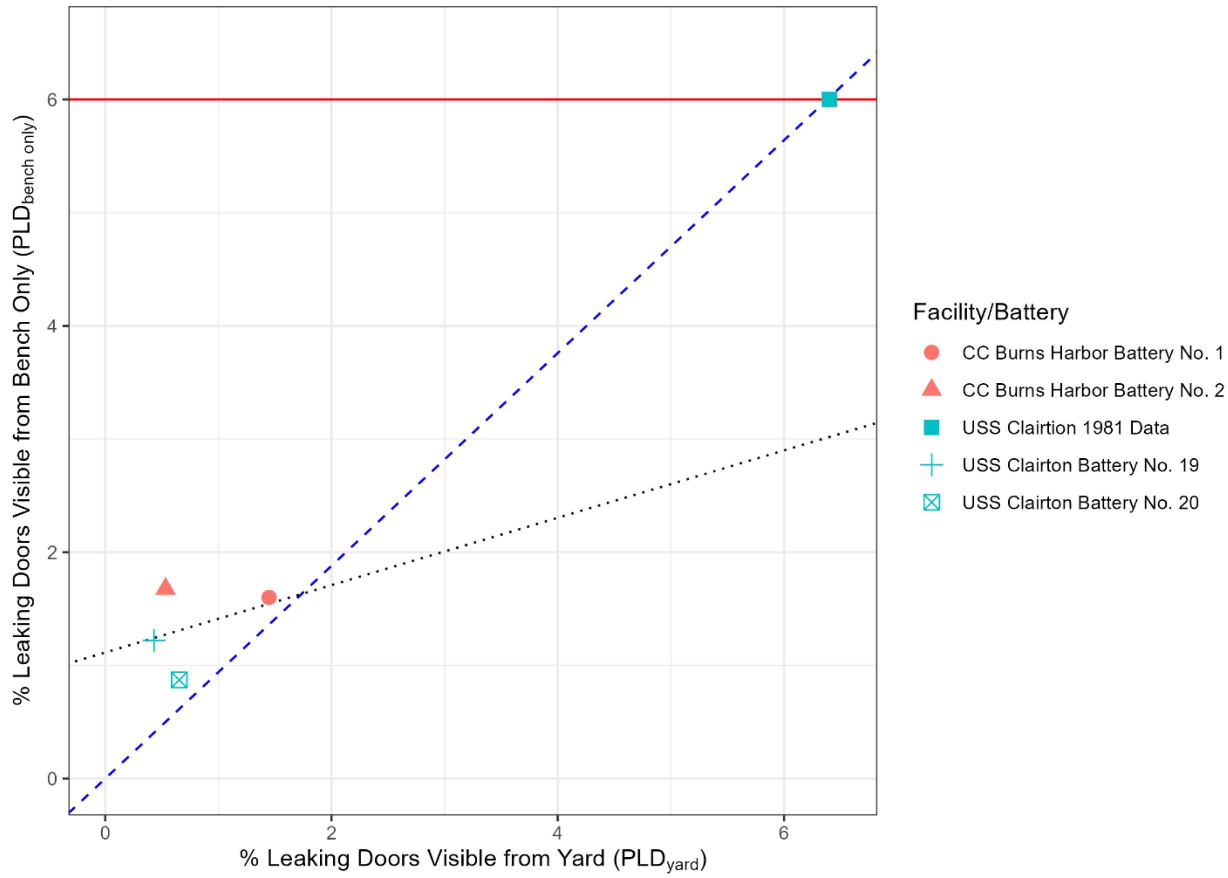
Door leak data was collected at a total of four batteries—two batteries at U.S. Steel's Clairton facility (Batteries 19 and 20) and two batteries at Cleveland-Cliffs' Burns Harbor facility (Batteries 1 and 2). At each battery, a team of four observers made four traverses. During each traverse, two observers noted percent leaking doors visible from the bench (PLD_{bench}), and the other two observers noted PLD_{yard}. For each traverse, Commenters first calculated the average PLD_{bench} value and average PLD_{yard} value, and then Commenters calculated $PLD_{bench\ only}$ by subtracting PLD_{yard} from PLD_{bench}. Because the traverses were made in a relatively short time period (approximately four hours), they cannot be treated as independent observations, so Commenters calculated average $PLD_{bench\ only}$ and PLD_{yard} for each battery based on the traverse values.

To test EPA's proposed change, Commenters plotted $PLD_{bench\ only}$ versus PLD_{yard} (**Figure 2**). If EPA's proposed change is valid, the points should fall along a line with a slope of 0.94 and intercept of 0. However, as shown in **Figure 2**, data for these four batteries are above this line, meaning EPA's proposed change would underestimate $PLD_{bench\ only}$ and thus COE. Another issue that becomes apparent when looking at **Figure 2** is that EPA's proposed change assumes that $PLD_{bench\ only}$ is zero when PLD_{yard} is zero. However, even when there are no leaks visible from the yard, there will still likely be leaks visible only from the bench. Given this, it appears a more appropriate method for estimating $PLD_{bench\ only}$ from PLD_{yard} is to fit a line to the data with a non-zero intercept. Doing so yields the following equation for estimating $PLD_{bench\ only}$ from PLD_{yard}:

$$PLD_{bench\ only} = 0.30 * PLD_{yard} + 1.11 \quad \text{(Equation 1)}$$

This equation (shown as a black line in **Figure 2**) gives a better estimate of $PLD_{bench\ only}$ in the range of PLD_{yard} values of modern coke ovens than the proposed method of simply multiplying PLD_{yard} by 0.94.

Figure 2: Plot of door leak data from EPA's CAA Section 114 ICR with assumed current and proposed values of $PLD_{bench\ only}$.



The solid red line in **Figure 2** shows the current assumed value of $PLD_{bench\ only}$ (6%). The dashed blue line represents the proposed change to calculating $PLD_{bench\ only}$ ($PLD_{bench\ only} = 0.94 * PLD_{yard}$). The black dotted line shows the line of best fit ($PLD_{bench\ only} = 0.30 * PLD_{yard} + 1.11$) for the door leak data collected during EPA's CAA Section 114 ICR.

As discussed above and shown in **Figure 2**, EPA's proposed change to the equation would underestimate $PLD_{bench\ only}$ and thus COE. Instead, EPA should estimate $PLD_{bench\ only}$ using Equation 1 ($PLD_{bench\ only} = 0.30 * PLD_{yard} + 1.11$), resulting in a more accurate estimate of $PLD_{bench\ only}$ and presumably of COE.

B. Commenters Support EPA's Reduced Limits for Leaks from Doors, Lids and Offtakes at By-Product Coke Oven Facilities But Additional Methods Are Available to Reduce Leaks.

EPA is proposing to lower the leak limits for by-product coke oven facilities for the following components: doors (1.5 percent for tall and 2.0 for "not tall" for the Clairton facility); 3.0 percent for all doors; lids (0.2 percent); offtakes (1.2 percent).[35] EPA states that the reduced

[35] 88 Fed. Reg. 55858, 55884 (August 16, 2023).

limits reflect improvements in leak control at coke oven facilities and improvements in the performance of these facilities.[36]

EPA specifically seeks comment on these proposed limits and whether there are other methods available to reduce leaks from doors, lids and offtakes, and from charging at coke oven batteries that aren't discussed.[37]

1. Commenters Support the Reduced Limits.

Commenters support the lower limits for leaks for coke oven batteries that produce less than 3 million tpy coke. The 25 and nine percent reductions in limit for tall and not tall doors are significant. Commenters further support even lower limits for the U.S. Steel Clairton facility, whose outsized emissions are discussed earlier in this Comment Letter. Especially where the limits for leaking lids and offtakes were reduced to reflect improvements in performance of facilities to minimize leaks, Commenters support EPA more realistically limiting these emissions as opposed to continuing to allow as much latitude to the operators.

2. EPA Should Examine Variable Pressure Regulation Technology for By-Product Recovery Coke Ovens More Closely.

EPA should examine technology that allows for variable pressure regulation within by-product recovery coke ovens more closely. Although EPA does briefly mention a specific variable pressure control technology (Pressure Regulated Oven (PROven) control technology) in its coke oven NESHAP technology review memo, it inaccurately classifies it as a technology to reduce emissions during charging.[38] While variable pressure regulation technology can reduce emissions during charging, its primary benefit is reducing emissions from door leaks. Studies have shown a 64–73% reduction in emissions of polycyclic aromatic hydrocarbons ("PAHs") from coke oven door leaks after the installation of variable pressure control technology.[39] This technology was first introduced in 1999[40] and has since been installed at both new and existing coke oven batteries in Europe, Asia, and North America[41], including at Battery C at U.S. Steel's Clairton Plant.[42] Given the technology's maturity and demonstrated efficacy, EPA should examine the feasibility of its adoption at existing coke oven batteries in the U.S. more closely.

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[36] *Id*.
[37] *Id*. at 55884.
[38] Memorandum from Donna Lee Jones, U.S. Env't Prot Agency, Office of Air Quality Planning and Standards, *Technology Review for NESHAP for Coke Ovens: Pushing, Quenching, and Battery Stacks (40 CFR part 63, subpart CCCCC), and NESHAP for Coke Oven Batteries (40 CFR part 63, subpart L)* (May 1, 2023) [hereinafter "Technology Review Memo"] at 33.
[39] Rainer Remus et al., *Best Available Techniques (BAT) Reference Document for Iron and Steel Production* (2013) at 251.
[40] *Id.*
[41] Frank Sowa, *First Operational Experiences of the Next Generation PROven® System at a Coke Plant - "PROven® NG"* (2016) at 14.
[42] Technology Review Memo at 33.

IV. EPA Can Further Reduce Emissions by Strengthening Standards for Battery Stacks.

EPA does not propose but states that they are “considering whether an additional 1-hour battery stack standard is warranted to support the current 24-hour average [by-product] battery stack standard […] so as to identify short-term periods of high opacity that are not identified from the current 24-hour opacity average.”[43] EPA referenced the large quantities of data needed to develop a 1-hour emissions limit for all coke oven facilities and to analyze coke oven wall work practices (to determine if there is a correlation between work practices and lower 1-hour opacities).[44]

A. EPA Should Include a 1-Hour Standard for Battery Stacks in Addition to the 24-Hour Standard.

EPA specifically requests comment on whether or not EPA should finalize a 1-hour battery stack opacity standard in the NESHAP in addition to or in lieu of the current standard that is a 24-hour average, and an explanation as to why or why not. EPA also requests comment on what work practices would reduce high opacity on an hourly basis.

Commenters urge EPA to finalize a 1-hour battery stack opacity standard in the NESHAP *in addition to* the current 24-hour average. Each battery stack is required to monitor opacity at all times using a continuous opacity monitoring system (“COMs”).[45] Commenters do not support any reduction to the 24-hour battery stack opacity limit in terms of precent opacity.

B. A 1-Hour Standard for Battery Stacks Would Result in Reduced Emissions and Improved Performance.

As part of the technology review for the PQBS category, EPA found that some coke ovens, which are considered to be well-controlled, maintain battery stack opacities far below the 24-hour limits, with others operating consistently just under the limit and significantly higher than the well-controlled sources.[46] EPA further notes that battery stack opacity is “perhaps the best single indicator of the maintenance status of coke ovens and could be considered as an indicator of fugitive and excess HAP emissions from coke batteries.”[47] Finally, EPA concludes that it is possible that an additional 1-hour battery stack standard could lower opacity for those facilities achieving opacity slightly less than the 24-hour standard and thus reduce coke oven and other HAP emissions from coke batteries.[48]

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[43] 88 Fed. Reg. 55858, 55883 (August 16, 2023).
[44] *Id.*
[45] Memorandum from Jacob Carpenter, U.S. Env’t Prot Agency, Region IV, Preliminary Analysis and Recommendations for Potential Coke Oven Combustion Stack 1-hr Additional Standard Under Technology Review for NESHAP for Coke Ovens: Pushing, Quenching, and Battery Stacks (40 CFR part 63, subpart CCCCC) (May 1, 2023) [hereinafter “1-Hour Stack Memo from Region IV”] at 1.
[46] 1-Hour Stack Memo from Region IV at 1.
[47] *Id*.
[48] *Id*.

Furthermore, EPA provided in Appendices 1-Hour COMs stack data for the six operating by-product facilities in the coke industry. It is worth noting that one by-product recovery plant, ABC Coke (Tarrant, AL), which is subject only to the NESHAP 24-hour opacity limit of 15% for normal operation and 20% for extended coking, reported the highest opacity as seen in **Figures 3** and **4** below:

Figure 3: ABC Coke 1-Hour COMS data.[49]

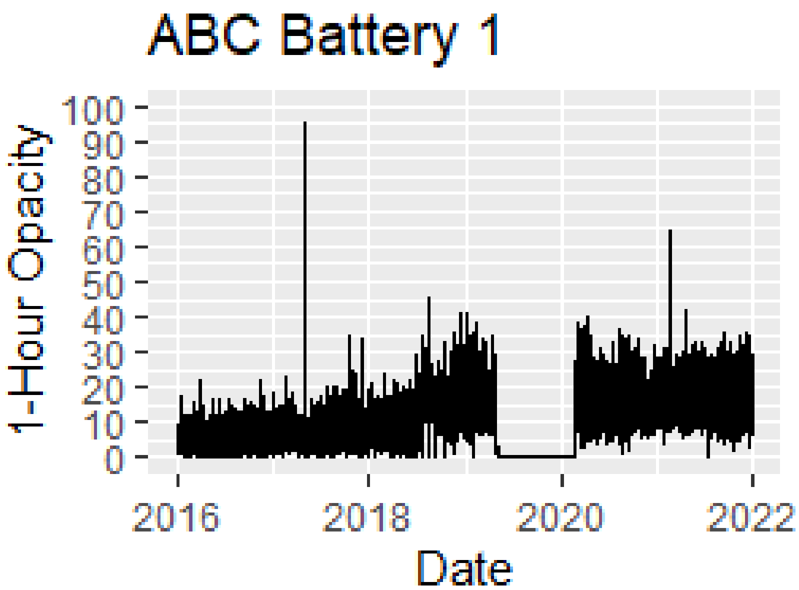
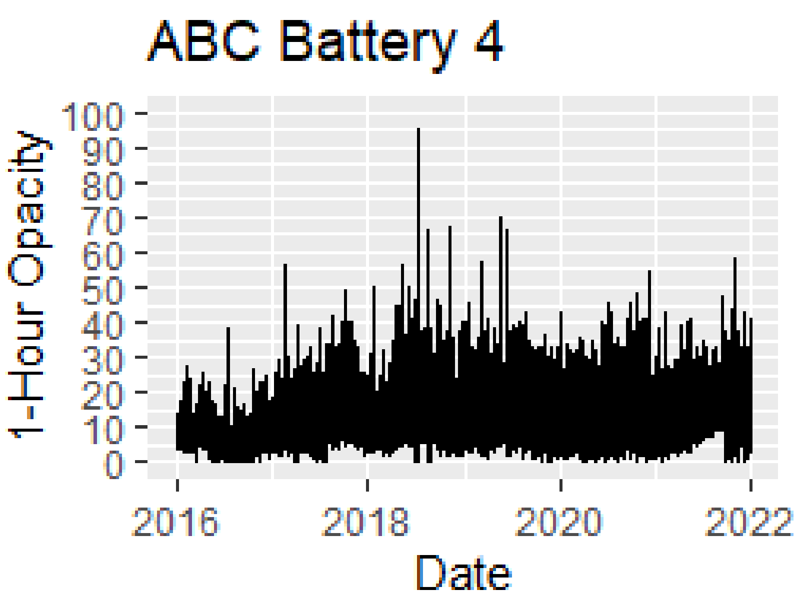


Figure 4: ABC Coke 1-Hour COMS data.[50]



[49] *Id*. at 5.
[50] *Id*. at 5.

The other by-product plant that is also subject only to the 24-hour opacity limit in the PQBS NESHAP, CC-Warren (OH), reported COMS data lower than ABC Coke as seen in **Figure 5** below:

Figure 5: CC Warren 1-Hour COMs data.[51]

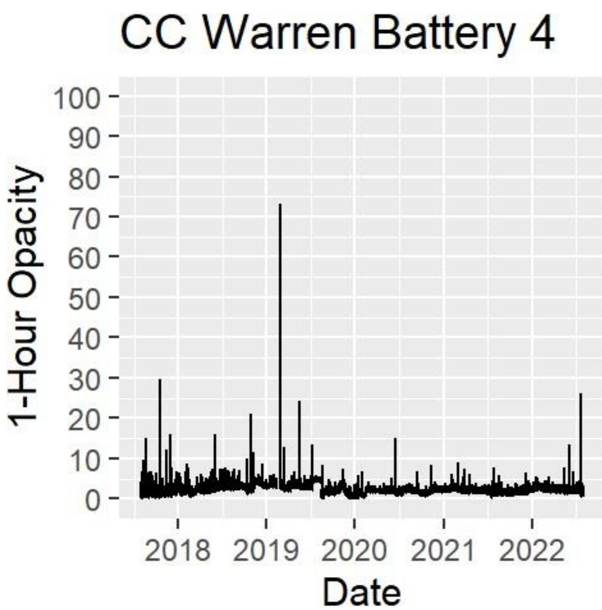


Table 4: Average hourly opacity for each By-product coke oven facility/battery that submitted hourly battery stack COMS data as part of EPA's CAA Section 114 ICR. Facilities/batteries are sorted in order of decreasing average hourly opacity. Data points associated with data flags indicating COMS issues were removed before calculating average opacity values.

Facility	Battery ID	Average Hourly Opacity (%)
ABC Coke	1	11.5
ABC Coke	4	11.4
CC Burns Harbor	1	7.2
CC Burns Harbor	2	5.6
USS Clairton	C	4.3
DTE/EES	C	3.3
USS Clairton	19	2.1
USS Clairton	15	2.0
CC Warren	4	2.0
USS Clairton	2	2.0

[51] *Id*. at 10.

USS Clairton	13	1.7
USS Clairton	14	1.6
USS Clairton	3	1.6
USS Clairton	20	1.4
USS Clairton	1	1.3
USS Clairton	B	1.3
CC Monessen	1B	1.1
CC Monessen	2	0.8

As evidenced by their COMS data, ABC Coke's ovens may be in need of maintenance and are likely emitting fugitive and excess HAP emissions from at least Batteries 1 and 4. Clairton Coke Works, another by-product recovery plants with lower opacity limits required by the local agency, even though it's a much larger operation than ABC Coke, reports considerably lower COMs data.

Furthermore, where EPA is treating opacity as a surrogate for nonmercury metal HAPs,[52] a 24-hour opacity standard alone fails to address the acute risks of exposure to HAPs during these shorter term high opacity events. In many cases, extreme opacity can last for just a few hours, which could be missed with a 24-hour limit. Where ABC Coke's average hourly opacity is a little over 11% for both batteries, this would mean that there are likely visible emissions at all times.

Considering the COMS data of different by-product plants above, EPA should strengthen the regulatory floor in these NESHAP revisions. States and local agencies are requiring more robust opacity standards that reflect lower opacity at the subject by-product plants. Requiring a 1-hour battery stack standard could lower opacity and serve as an indicator of issues that need to be repaired or corrected at the batteries. Accordingly, Commenters urge EPA to adopt a 1-hour standard for battery stacks.

C. EPA Acted Arbitrarily and Capriciously by Failing to Propose a 1-Hour Standard for Battery Stacks.

EPA is required to "review and revise as necessary" the MACT standards "taking into account developments in practices, processes, and control technologies" under Section 112(d)(6). Part 63, Subpart CCCCC standards apply to the battery stacks, which was promulgated on April

[52] 88 Fed. Reg. 55858, 55864 (August 16, 2023).

14, 2003.[53] These standards were amended two years later pursuant to settlement.[54] EPA finally performed a residual risk review in this current action due to recent litigation.[55]

Commenters recognize the challenge of reviewing and updating the NESHAP standards for HAPs. However, despite having almost twenty years to do so, EPA asserts in these proposed revisions to the NESHAP for PQBS that they are not proposing a 1-hour limit "because of the processing of large quantities of data that would be needed to develop a 1-hour emissions limit for all coke facilities and also to analyze oven wall work practices reported by coke facilities in the CAA Section 114 request responses to see if there is a correlation between the work practices and lower opacities in the 1-hour time data."[56] EPA then asks for comment and information on whether EPA should finalize a 1-hour standard, pointing would-be commenters to a memo on the 1-hour opacity and work practice data collected by EPA in the Section 114 ICR.

First, the only explanation offered by EPA for failing to propose a 1-hour standard that would reduce emissions from battery stacks amounts to they did not have the time to analyze the COMS data and work practice data submitted by six sources as part of the Section 114 ICR. Commenters acknowledge how time-consuming and data intensive it is for EPA to revise NESHAP standards, but at the same time struggle to accept that EPA lacked sufficient time was to propose a 1-hour standard. Section 114 ICRs yield significant amounts of data and information that EPA analyzes to propose new standards in NESHAP revisions for many sectors. EPA has not sufficiently explained why information presented in a twenty-eight page memo[57], that contains many diagrams and a manageable amount of text, was so onerous to review that EPA failed to propose a 1-hour standard for battery stacks. Especially where that same memo concludes that an additional 1-hour standard could lower opacity and reduce COE and other HAP from coke batteries, EPA has acted arbitrarily and capriciously in failing to propose a 1-hour standard.

Finally, the residual risk review requires EPA to "promulgate standards […] in order to provide an ample margin of safety to protect public health[.]"[58] Where EPA performed both a risk and technology review for PQBS, EPA was also required to take into account developments in practices, processes, and control technologies. In failing to propose a 1-hour standard for battery stacks in addition to the 24-hour standard, EPA failed to fulfill its duties to take into account the development of a practice that would reduce emissions in order to provide an ample margin of safety to protect public health. Thus, EPA should finalize a 1-hour opacity standard in addition to a 24-hour standard for battery stacks.

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[53] National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, 68 Fed. Reg. 18008 (April 14, 2003).
[54] National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, 70 Fed. Reg. 44285 (August 2, 2005).
[55] *Citizens for Pa. Future v. Wheeler*, 469 F.Supp.3d 920, 923 (June 26, 2020).
[56] 88 Fed. Reg. 55858, 55883 (August 16, 2023).
[57] *See* 1-Hour Stack Memo from Region IV.
[58] 42 U.S.C. § 7412(f)(2)(A).

V. EPA Should Include a Standard for Soaking Coke Oven Emissions.

Although EPA is not proposing controls or an opacity limit on soaking emissions, EPA is soliciting comment and information on soaking coke oven emissions, including comments as to whether or not EPA should include such a standard in the NESHAP in the final rule and an explanation as to why or why not.

Commenters urge EPA to finalize an opacity limit paired with work practice standards and corrective action requirements for soaking emissions.

A. Soaking Can Be a Source of High Opacity.

Soaking is the period in the coking cycle that starts when an oven is dampered off the collecting main and vented to the atmosphere through an open standpipe prior to pushing. The soaking process ends when the coke is pushed from the oven. When emissions from soaking are visible, it is more than likely due to a malfunction (either through components or worker error). The soaking coke oven emissions are most obvious during a "green push," which is a large black plume. Green pushes are the result of coke that has been pushed before the coking process is complete.

In a memo prepared by EPA Region V staff ("Region V") on soaking emissions at Mountain State Carbon, LLC (Follansbee, WV), Region V estimated that the pushing schedule at that coke oven was such that 60 ovens would be pushed over a 24-hour period.[59] Region V estimated this resulted in approximately 4,800 cubic feet of coke oven gas vented to the atmosphere (1,752,000 cubic feet annually).[60]

In the Memo, Region V extrapolated their findings at Mountain State Carbon, LLC to conclude that the "venting of soaking emissions occurs regularly enough at coke oven facilities that a secondary collecting main could be used to route emissions to a separate air pollution control device."[61] The Memo further recommended that amendments to the NESHAP could require[62]:

- a separate air pollution control device with an associated limit and/or include an opacity limit for soaking emissions, which could be averaged over an appropriate period of time to reflect the nature of operations and which would be required to occur as soon as soon as the oven standpipe cap is opened; and
- Work practice standards that include a corrective action requirement triggered by a failure to meet the opacity limit.

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[59] Memorandum from Patrick Miller, U.S. Env't Prot. Agency, Region V, *Soaking Emissions from Coke Ovens: Mountain State Carbon LLC, Follansbee, WV, Inspection June 15-16, 2021* (May 1, 2023) at 2 [hereinafter "Mountain State Carbon Memo"].

[60] *Id*.

[61] *Id*.

[62] *Id*.

The Memo noted that the work practice standards paired with the opacity limit "would replace *the current subjective determinations made by facility personnel during the course of typical coke oven operations.*"[63]

B. EPA Acted Arbitrarily and Capriciously by Failing to Propose Opacity Limits and Work Practice Standards for Soaking Emissions.

Once again, Commenters recognize the challenge of reviewing and updating the NESHAP standards for HAPs, while also noting that EPA had almost twenty years to consider better control HAP emissions from soaking. EPA asserts in these proposed revisions to the NESHAP for PQBS that they are not proposing controls or an opacity limit for soaking emissions. Similar to EPA's refusal to propose a 1-hour standard for battery stacks, EPA asks would-be commenters to explain why EPA should propose controls or limits on soaking emissions.

EPA has not sufficiently explained why they did not utilize the findings of their regional staff regarding soaking emissions and adequate controls thereof to propose standards. That same Memo concludes that an opacity standard (either for soaking emissions themselves or a separate air pollution control device with associated limits) paired with a work practice standard and corrective action requirements could reduce soaking emissions. EPA has acted arbitrarily and capriciously in failing to even propose standards in this memo for soaking emissions.

Finally, the residual risk review requires EPA to "promulgate standards […] in order to provide an ample margin of safety to protect public health[.]"[64] Where EPA performed both a risk and technology review for PQBS, EPA was also required to take into account developments in practices, processes, and control technologies, which clearly point to the need for such a standard. a Thus, EPA should replace the subjective work practice plan requirements with an opacity standard (either for soaking emissions or a separate air pollution control device with associated limits) paired with work practice standards and a corrective action requirement for soaking emissions.

Additional Comments

I. Commenters Support EPA's Intentions to List Co-Located By-Product Recovery Plants at Coke By-Product Recovery Facilities as a Category Source Under CAA Section 112(c)(5), But Also Encourage EPA to Create Standards As Soon As Possible.

Commenters support EPA's stated intention[65] to list coke by-product recovery plants co-located at coke by-product recovery facilities as a source category. By-product recovery ovens send coke oven gases to by-product recovery plants, which are covered under 40 C.F.R. § 61 Subpart L. As EPA states itself, the "coke oven by-product plant is an integral part of the by-product coke-making process, which results in the making of a liquid condensate stream and gas

[63] *Id*. (emphasis added).
[64] 42 U.S.C. § 7412(f)(2)(A).
[65] 88 Fed. Reg. 55858, 55866 (August 16, 2023).

stream."[66] Accordingly, it is logical and proper for EPA to list the by-product recovery plants as a co-located source. However, as discussed in more detail below, where EPA failed to complete a risk review for coke ovens on the Lowest Achievable Emission Reduction ("LAER") track in 2020[67] and where the Part 61, Subpart L standards have not been revised substantively since 1991[68], EPA must list coke by-product plants and establish standards post haste.

A. Coke By Product Recovery Plants are Currently Addressed Under the Benzene NESHAP in Part 61, Subpart L, Which Is Also Due to be Revised.

The emissions standards for coke by-product recovery plants were promulgated in what is known as the "Benzene NESHAP." In the 1989 final rule establishing the emission standards for coke by-product recovery plants, EPA refers to *Nat. Res. Def. Council, Inc. v. Env't. Prot. Agency*[69] as the "*Vinyl Chloride* decision," and states that EPA proposed four policy approaches for setting HAP emission standards under Section 112 in 1988[70], which included coke by-product recovery plants as an additional category to those in the remand.[71]

Moreover, the *Vinyl Chloride* decision was reached in 1987 and the Benzene NESHAP was finalized in 1989. It was not until the 1990 CAA Amendments that the two-phase approach of promulgating technology-based emission standards, requiring "maximum achievable control technology," followed by performing a "risk-based analysis" was established.[72] Accordingly, the Benzene NESHAP predated the MACT standards. However, the Benzene NESHAP evaluated whether an ample margin of safety could be achieved using certain control technologies.[73] As such, the 1989 Benzene NESHAP should be treated as initial promulgation of MACT standards.

Finally, in 1999 EPA submitted to Congress the mandated Residual Risk Report,[74] where the 1989 Benzene NESHAP risk review was adopted. The 1989 Benzene NESHAP also included

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[66] EPA, *Coke Oven By-Product Recovery Plants: National Emissions Standards for Hazardous Air Pollutants (NESHAP)*, June 2, 2023.
[67] Technology Review Memo at 4.
[68] National Emission Standards for Hazardous Air Pollutants; Amendment to Benzene Rule for Coke By-Product Recovery Plants, 56 Fed. Reg. 47404 (September 19, 1991).
[69] 824 F.2d 1146 (D.C. Cir. 1987).
[70] National Emission Standards for Hazardous Air Pollutants; Benzene Emissions From Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants, 53 Fed. Reg. 28496 (July 28, 1988).
[71] National Emission Standards for Hazardous Air Pollutants; Benzene Emissions From Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants, 54 Fed. Reg. 38044, 38044 (September 14, 1989). Additionally, EPA published a proposed standard for benzene emissions from coke by-product recovery plants (National Emission Standards for Hazardous Air Pollutants; Proposed Standards for Benzene Emissions From Coke By-Product Recovery Plants, 49 Fed. Reg. 23522 (June 6, 1984)) on the same day that EPA withdrew its proposed standards for maleic anhydride process vents, EB/S process vents, and benzene storage vessels (National Emission Standards for Hazardous Air Pollutants; Benzene Emissions From Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, and Benzene Storage Vessels, 49 Fed. Reg. 23558 (June 6, 1984)), which became the subject of the Vinyl Chloride Decision.
[72] 42 U.S.C. § 7412 (d)(2); *see also Citizens for Pa. Future v. Wheeler* 469 F.Supp.3d 920, 923 (June 26, 2020) (discussing the two phase approach in the 1990 amendments).
[73] *See* 54 Fed. Reg. 38044, 38051-38052 (September 14, 1989).
[74] Pursuant to 42 U.S.C. § 7412(f)(1); EPA, EPA-453/R-99-001, Residual Risk Report to Congress (Mar. 1999), https://www.epa.gov/sites/default/files/2013-08/documents/risk_rep.pdf.

EPA's risk analysis of benzene from coke by-product recovery plants under the no higher than 1 in 1 million individual lifetime risk level framework[75], which is also the threshold for the residual risk analysis. As such, the risk and technology review for coke by-product recovery plants was completed prior to the 1990 CAA Amendment framework.

B. EPA Failed to Perform the Required Risk Review in 2020 for LAER Track Coke Ovens, Which Include Eight of the Nine By Product Recovery Plants.

EPA promulgated a risk and technology review ("RTR") for coke oven batteries in 2005.[76] However, EPA completed the RTR only for the batteries subject to the MACT requirements, which are known as the "MACT track" batteries.[77] In the proposed Coke Oven Rules, EPA notes that all but one (Cleveland Cliffs, Middletown, OH) by-product recovery facility is on the LAER track.[78] EPA mentions in the Technology Review Memo that the LAER track RTR "was to be done by 2020 but was not done at that time."[79] The Fall 2022 Regulatory Agenda also contemplated a risk review for LAER track ovens.[80] However, the risk review for LAER track ovens, which includes eight of the nine by-product facilities, is not included in this rulemaking.

C. Where EPA Has Demonstrably Failed on Two Separate Occasions to Perform a Risk Review for LAER Track Ovens and Where EPA Has Not Revised Part 61, Subpart L Requirements Since 1991, EPA Must List Co-Located By-Product Plants as a Source Under 112(c)(5) and Issue Standards Post Haste.

First, EPA has the authority under CAA 112(c)(5) to list co-located by-product recovery plants as a source. Especially where a coke oven by-product plant is an integral part of the by-product coke-making process performed by batteries and PQBS, it is prudent and logical for EPA to list these integral, onsite facilities as a source.

Additionally, EPA contemplated a risk review for eight (of nine) of the by-product facilities in the Fall 2022 regulatory agenda, with court-mandated final rules set for May of 2024.[81] EPA also states in their Technology Review Memo that a risk review for LAER track ovens was supposed to be, but was not, completed in 2020.[82] Compounding this lack of review is the fact that EPA has not revised the technology standards for coke by-product plants under Part 61, Subpart L in thirty-two years.[83]

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[75] *See* 54 Fed. Reg. 38044, 38047-38048, 38052-38053.
[76] National Emission Standards for Coke Oven Batteries, 70 Fed. Reg. 19992 (April 15, 2005).
[77] *Id*. at 19992; Technology Review Memo at 4.
[78] Also noting one HNR facility, SunCoke Vansant, on the LAER track. 88 Fed. Reg. 55858, 55865 (August 16, 2023).
[79] Technology Review Memo at 4.
[80] Office of Information and Regulatory Affairs, Office of Management and Budget, *National Emission Standards for Hazardous Air Pollutants: Coke Ovens: Residual Risk and Technology Review for Pushing, Quenching, and Battery Stacks and Coke Oven Batteries*, RIN 2060-AV19, (Fall 2022), https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202210&RIN=2060-AV19.
[81] *Id*.
[82] Technology Review Memo at 4.
[83] 56 Fed. Reg. 47404 (September 19, 1991).

Accordingly, EPA must revise the Part 61, Subpart L technology standards. Further, EPA has not delivered on its public commitments to review risks for LAER track ovens, which include almost all facilities with co-located by-product recovery plants. Commenters support EPA's intention to list co-located by-product recovery plants as a source. However, where EPA has not fulfilled its mandatory nor committed duty to revise technology and risk standards for by-product recovery plants, EPA must approach listing co-located by product recovery plants with an increased sense of urgency, preferably immediately.

II. EPA Should Revise Standards for the Bypass/Bleeder Stacks at By-Product Recovery Coke Oven Facilities.

Estimates of bypass/bleeder stack emissions can be made if historical frequency of the venting is known for a specific plant.[84] Open stack flaring of coke oven gas does not lend itself to controlled combustion conditions that are necessary to properly control HAP emissions.

In 1993, EPA established standards that require the installation, operation, and maintenance of a flare system (or equivalently effective alternative control device or system) for the bypass/bleeder stacks of each existing by-product coke oven battery.[85] Flares must be designed to meet the EPA flare specifications in 40 C.F.R. § 60.18, adapted for coke oven emissions for steam-assisted or air assisted flares of 8.9 MJ/scm (240 Btu/scf) or greater.[86] Operators are required to vent coke oven gas through the bypass/bleeder flare systems and are prohibited from venting through the bypass/bleeder stack.[87]

Current standards for bypass/bleeder stacks are addressed in 40 C.F.R. § 63.307. The requirements flares must meet are addressed in (b), including requiring that flares have a continuously operable pilot flame or an electronic igniter that must meet additional requirements.[88] Bypass/bleeder flares shall be operated with non visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.[89] Additionally, the bypass/bleeder stack standards allow coke by-product recovery plants to petition the Administrator for approval of an alternative control device or system that achieves at least 98 percent destruction of coke oven emissions vented to the alternative control device system.[90]

Although bypass/bleeder stacks at by-product recovery plants produce HAPs and are not well controlled through open flaring, EPA has failed to revise the subsection 307 standards at all. EPA actually did not address at all in the record emissions from bypass/bleeder stacks and flares. As discussed in more detail below, EPA should have reviewed the bypass/bleeder stack flare

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[84] *Emission Factor Documentation for AP-42-Section 12.2-Coke Production* (May 2008) at 4-32.
[85] National Emission Standards for Hazardous Air Pollutants for Source Categories and for Coke Oven Batteries, 58 Fed. Reg. 57898, 57902 (October 27, 1993).
[86] *Id*.
[87] *Id*.
[88] 40 C.F.R. § 63.307(b)(1)-(3)(i)-(iv),(4).
[89] 40 C.F.R. § 63.307(c).
[90] 40 C.F.R. § 63.307(d).

systems (and vents?) and at least explained why no further revisions were needed to meet the technology-based and residual risk requirements of Section 112 and the Clean Air Act.

EPA arbitrarily and capriciously failed to even address bypass/bleeder stack flare standards.[91] EPA established a 98 percent destruction efficiency as MACT for flares for the refinery sector.[92] When EPA promulgated 40 C.F.R. § 63.307, EPA stated that the bypass/bleeder stack flare systems "must be designed to meet the EPA flare specifications in 40 C.F.R. § 60.18."[93] EPA has repeatedly required that flares operating in accordance with 40 C.F.R. § 60.18 to destroy VOCs have a destruction efficiency of 98 percent or greater.[94] EPA has failed to even address bypass/bleeder stack flares, let alone offer sufficient reasons for not revising these standards.

Additionally, under the current NESHAP, operators are allowed to install an alternative to bypass/bleeder stack flares "that achieves 98 percent destruction of coke oven emissions vented to the alternative control device or system."[95] In a recent Order on a Title V Petition to Object[96] to a Title V renewal permit for Clairton Coke Works, EPA responded to one of Petitioner's Claims that "40 C.F.R. § 63.307 do[es] not include an automatic or universal requirement that such a system achieve at least 98 percent destruction efficiency."[97] EPA further reasoned that "the 98 percent destruction efficiency applies only if the facility petitions the Administrator and ACHD for use of an alternative control system, which would then be required to achieve at least 98 percent destruction or control of emissions."[98]

If EPA believes that the current NESHAP rules do not actually require bypass/bleeder flares to achieve 98 percent destruction efficiency, the Agency should have revised the rule to make that performance standard explicit for both flares and alternative control Devices.

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[91] *See Transactive Corp*, 91 F.3d at 237 ("A long line of precedent has established that an agency action is arbitrary when the agency offered insufficient reasons for treating similar situations differently.")
[92] Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, 79 Fed. Reg. 36880, 36905 (June 30, 2014).
[93] National Emission Standards for Hazardous Air Pollutants for Source Categories and for Coke Oven Batteries, 58 Fed. Reg. 57898, 57902 (October 27, 1993).
[94] *See, e.g.*, Standards of Performance for New Stationary Sources: General Provisions; National Emission Standards for Hazardous Air Pollutants for Source Categories: General Provisions, 63 Fed. Reg 24436, 24437 (May 4, 1998); *see also In the Matter of BP Amoco Chemical Company Texas City Chemical Plant Galveston County, Texas,* Order on Petition No. VI-2017-6 (July 20, 2021) (EPA directed a state agency to impose more stringent monitoring and operating requirements to flares to assure that they are achieving compliance with a 98 percent destruction efficiency for VOCs and benzene).
[95] 40 C.F.R. § 63.307(d).
[96] In determining whether to grant or deny a Petition to Object, EPA does not address the substance of the applicable requirements. Instead, EPA looks to whether the applicable requirements as written are met by the Title V permit. I*n the Matter of Consolidated Environmental Management, Inc., Nucor Steel Louisiana*, Order on Petition Nos. VI-201 1-06 and VI-2012-07 at 4-7 (June 19, 2013).
[97] *In the Matter of U.S. Steel Corporation, Clairton Coke Works*, Order on Petition No. 0052-OP22 (September 18, 2023) at 30 [hereinafter "Clairton Order"].
[98] *Id*.

VI. EPA Should Set Earlier Deadlines for Compliance for Several Proposed New Requirements.

A. EPA Should Require Coke Oven Operators to Comply with the Recordkeeping Requirements for Removal of the Startup, Shutdown and Malfunction Provisions No Later than the Effective Date of the Final Rule.

EPA is proposing that the date for complying with the proposed changes to Startup, Shutdown and Malfunction ("SSM") recordkeeping requirements is no later than the effective date of the rule.[99] However, EPA is allowing 180 days from the effective date of the final rule to comply with the recordkeeping requirements of SSM.[100]

The United States Court of Appeals for the District of Columbia Circuit Court vacated SSM plans because it violated the CAA's requirement that some Section 112 standards apply continuously.[101] Sources have known about this decisions since 2008; fifteen years is plenty of time to prepare to comply with these changes to recordkeeping requirements. Accordingly, EPA should require that coke oven operators also comply with the SSM reporting requirements no later than the effective date of the final rule.

B. EPA Should Require Compliance with the Fifteen New MACT Limits Within Six Months of Publication of the Final Rule.

EPA proposes that the compliance dates for the 15 new MACT limits are:[102]

- PQBS: one year after the final rule.
- PQBS: BTF emission limits for Heat Nonrecovery ("HNR") waste heat stacks is three years after publication of the final rule.
- PQBS: BTF PM limit for waste stacks is three years after publication of the final rule.

EPA is allowing entirely too much extra time for compliance for sources that have enjoyed a decade plus of NESHAP standards that should have been, but were never revised. As such, at most, EPA should allow for the new MACT limits for PQBS is six months within promulgation of the final rule. For the other two BTF listed above, EPA should allow no more than one year from promulgation of the final rule.

C. EPA Should Require Compliance with Leaking Doors, Lids and Offtakes Limits Immediately After Publication of the Final Rule.

EPA proposes that operators have one year after publication of the final rule to comply with the revisions to the allowable limits for leaking doors, lids and offtakes under the Coke Oven Batteries NESHAP. Again, where EPA has not revised the NESHAP for Batteries since 2005[103], industry should not be afforded additional time to comply with overdue standards. As

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[99] 88 Fed. Reg. 55858, 55893 (August 16, 2023).
[100] *Id*. at 55893.
[101] *Sierra Club v. EPA*, 551 F. 3d 1019 (D.C. Cir. 2008).
[102] 88 Fed. Reg. 55858, 55893 (August 16, 2023).
[103] National Emission Standards for Coke Oven Batteries, 70 Fed. Reg. 19992 (April 15, 2005).

such, EPA should require that operators comply with the new limits for leaking doors, lids and offtakes upon promulgation of the final rule.

VII. Conclusion

Commenters appreciate EPA's proposal to strengthen the standards for Coke Ovens, especially the inclusion of the fenceline standard for benzene. However, EPA must further strengthen the NESHAP for these facilities to correct the deficiencies discussed above.

Haley Lewis
Attorney
Environmental Integrity Project
1000 Vermont Avenue, NW, Suite 1100
Washington, D.C. 20005
hlewis@environmentalintegrity.org

Kerri Gefeke
Associate Attorney
Environmental Law & Policy Center
KGefeke@elpc.org

Charlie Powell
President
PANIC
110 74th Street South
Birmingham, AL 35206

Jon Gordon
CALSTART

Lisa Graves Marcucci
PA Coordinator, Community Outreach
Environmental Integrity Project
370 Temona Drive
Pittsburgh, PA 15236
lgmarcucci@environmentalintegrity.org

Matthew Mehalik, Ph.D.
Executive Director
Breathe Project
Energy Innovation Center
1435 Bedford Avenue, Suite 140
Pittsburgh, PA 15219
mmehalik@breatheproject.org

Benjamin Inskeep
Program Director
Citizens Action Coalition
1915 W. 18th Street, Suite C
Indianapolis, IN 46202
binskeep@citact.org

Chavaysha Chaney
Advocacy and Health Policy Manager
Women for a Healthy Environment
401 N. Highland Avenue
Pittsburgh, PA 15206

Angelo Taranto
Allegheny County Clean Air Now
(ACCAN) Secretary-Treasurer
5000 Park Plaza Drive, Apt. 202
Pittsburgh, PA 15229
ataranto39@gmail.com

Qiyam Ansari
Valley Clean Air Now (VCAN)
Chairperson
CEDCC/282 St. Clair Avenue
Clairton, PA 15025
info@valleycleanairnow.com

Heather Hulton VanTassel
Executive Director
Three Rivers Waterkeeper
800 Vinial Street, Suite B314
Pittsburgh, PA 15212
heather@threeriverswaterkeeper.org

Alex Bomstein
Legal Director
Clean Air Council
135 South 19th Street, Suite 300
Philadelphia, PA 19103
abomstein@cleanair.org

Dave & Cindy Meckel
105 Fern Way
Glassport, PA 15045
cindy.rosser@aol.com

Julie DiCenzo
127 Skymark Lane
Sewickley, PA 15143
jdicenzo@live.com

Nicole Ruscitto
1524 High Road
Jefferson Hills, PA 15025
ruscittorl@gmail.com

Jane Cleary
25 Macrae Drive
Grove City, PA 16127
cleary@zoominternet.net

Dennis McAndrew
David Holliday
327 Karen Dr
Elizabeth PA, 15037
dennismcandrew@yahoo.com
dpholliday@hotmail.com

Richard St. John
128 N Craig Street, Apt 616
Pittsburgh PA 15213
richardstjohn.pgh@gmail.com

Mary Lou Mills
Janet Roslund
1007 Thomas Street
Monongahela, PA 15063
mlmscarlatti@gmail.com

Joanne Hall
1116 High Street
West Newton, PA 15089
jjhall3@comcast.net

Lisa Riley
718 Miller Avenue
Sutersville, PA 15083
kresovich@gmail.com

Madeline Darnell
540 N Neville Street
Apt. 205
Pittsburgh, PA 15213
madeline.darnell@gmail.com

Robert R. Mitchell
3507 Mayer Drive
Murrysville PA 15668
rrmitchell350@gmail.com

Kathleen Rueppel,
515 MacArthur Street
McKees Rocks, PA 15136
k_rueppel@hotmail.com

James Highland
310 Garden Ave
Grove City, PA 16127
editor@sgpublishingteam.com

Sandra Woolley
5515 Dunmoyle Ave.
Pittsburgh, PA 15217
sandy.woolley@gmail.com

Mary A. Schinhofen
5004 Friendship Avenue
Pittsburgh, PA. 15224
mary@schinhofen.net

Melanie D. Meade
425 Shaw Ave
Clairton, PA 15025
meadem307@gmail.com

Diane Sipe
740 Pattison St. Ext.
Evans City, PA 16033
sipediane5@gmail.com

Barbara W Brandom, MD
1118 King Avenue
Pittsburgh, PA 15206
bwb131252@gmail.com

Marcia Carnahan
677 New Castle Road
Slippery Rock Pa 16057
Marciamarcia66@gmail.com

Joan Harvey
5134 Westminster Pl
Pittsburgh, PA 15232
joanhrv@gmail.com

Eleanor Mayfield
5701 Northumberland St.
Pittsburgh, PA 15217
ellen5633@verizon.net

Eleanor B. Emmons
642 Gettysburg St.
Pittsburgh, PA 15206
ebe.emmons@gmail.com

Lois & Nancy Brown
2481 Morton Rd
Pittsburgh, PA 15241
loisbpa@gmail.com

Margaret Laske
114 Aylesboro Lane
Pittsburgh, PA 15217
margaretlaske@mac.com

Tom Hoffman
7115 Willard St
Pittsburgh, PA 15208
tghoffman2@gmail.com

Leah Kozak
442 E Tenth Avenue
Homestead, PA 15120
Organizer, Pennsylvania Interfaith Impact Network
leah.kozak@piinpa.org

Madeline Darnell
540 North Neville Street #205
Pittsburgh, PA 15213-2836
madeline.Darnell@gmail.com

Ted Grice
1645 Scenery Drive
Elizabeth, PA 15037
tedgrice@comcast.net

James Cato
550 Peebles Street
Pittsburgh PA 15221
james@mtwatershed.com

Patty Hoffman
408 Duncan Station Road
Elizabeth Township, PA 15135
pmhoffman408@gmail.com

Martha Evans
100 Styche Street
Buena Vista, PA 15018
9bubba@comcast.net

Germaine Gooden-Patterson
359 Wylie Avenue
Clairton, PA 15025
germainegooden.gg@gmail.com

Christine Graziano
1800 Murray Ave.
PO Box 81865
Pittsburgh, PA 15217
studio.cgm@gmail.com

Nancy Ivan
320 N Water Street
West Newton PA 15089
nivan.eatright@gmail.com

Cathy Anderson
2900 Schwirian Drive
Elizabeth PA 15037
Cathjanderson@verizon.net
mailto:cathjanderson@verizon.net