

**ALLEGHENY COUNTY HEALTH  
DEPARTMENT AIR QUALITY PROGRAM**

In the Matter of:

United States Steel Corporation  
Clairton Plant  
400 State Street  
Clairton, PA 15025

Violation No. 220302

Violations of Article XXI (“Air  
Pollution Control”) at property:

United States Steel  
Corporation  
Mon Valley Works  
400 State Street  
Clairton, PA 15025

**ENFORCEMENT ORDER**

**NOW**, this 7<sup>th</sup> day of March, 2022, the Allegheny County Health Department (hereinafter "ACHD") issues this Enforcement Order after it has found and determined the following:

1. The Director of the ACHD has been delegated authority pursuant to the federal Clean Air Act, 42 U.S.C. Sections 7401-7671q (hereinafter “CAA”), and the Pennsylvania Air Pollution Control Act, 35 P.S. Sections 4001-4014 (hereinafter “APCA”), and the ACHD is a local health agency organized under the Local Health Administration Law, 19 P.S. §§ 12001-12028, whose powers and duties include the enforcement of laws relating to public health within Allegheny County including, but not limited to, the ACHD’s Rules and Regulations, Article XXI, Air Pollution Control (Allegheny County Code of Ordinances Chapters 505, 507, and 535) (hereinafter “Article XXI”).

2. United States Steel Corporation (hereinafter “U.S. Steel”) owns and operates a facility in Clairton, Allegheny County, Pennsylvania (hereinafter “Clairton Coke Plant”). Clairton Coke Plant operates ten coke batteries and produces approximately 11,000 tons of coke

per day from the destructive distillation (carbonization) of approximately 14,000 tons of coal. During the carbonization process, approximately 170 million cubic feet of coke oven gas are produced. The volatile products of coal contained in the coke oven gas are recovered in the by-products plant. In addition to the coke oven gas, daily production of these by-products includes approximately 100,000 gallons of crude tar, 14,000 to 30,000 gallons of light oil, 40 tons of elemental sulfur, and 50 tons of ammonia.

3. On March 27, 2012, the ACHD issued Operating Permit No. 0052 to U.S. Steel for the Clairton Coke Plant.

4. On April 6, 2018, the ACHD issued Installation Permit Amendment No. 0052-I011b (hereinafter “IP-011b”) to U.S. Steel for the construction of C Battery.

5. The Pennsylvania “Air Resources” regulations establish that the ambient air quality standard for H<sub>2</sub>S is a maximum concentration of 0.005 parts per million by volume-dry (ppm) averaged over a 24-hour period. 25 Pa. Code § 131.3.

6. A Program Clarification Memorandum (PCM) issued on February 23, 2021 by the Pennsylvania Department of Environmental Protection (hereinafter “DEP”), Bureau of Air Quality, states:

Because the standard in 25 Pa. Code §131.3 does not specify a calendar day, calculations should use the more protective interpretation of the 24-hour standard; namely, the 24-hour averages used for comparison against the standards should be based upon rolling 24-hour averages, rather than calendar days. In this way, no 24-hour average above the state standard is excluded from comparison to the standard.

7. Article XXI, § 2101.10.a (“Ambient Air Quality Standards”), incorporates the ambient air quality standards for H<sub>2</sub>S set forth in 25 Pa. Code § 131.3:

All final national and state ambient air quality standards, promulgated by EPA under the Clean Air Act at 40 CFR part 50, and by the state under the Air Pollution Control Act at **25 Pa. Code Chapter 131**, respectively, are hereby

incorporated by reference into this Article.

8. Article XXI, § 2101.11.a.2 (“Prohibition of Air Pollution”), states that no person shall “operate any source of air contaminants in such manner that emissions from such source . . . [c]ause an exceedance of the ambient air quality standards established by § 2101.10 of this Article.”

9. The Clairton Coke Plant is a significant source of hydrogen sulfide (H<sub>2</sub>S) emissions. In the two most recent emission inventory submittals from 2019 and 2020, U.S. Steel reported to ACHD 156 tons of H<sub>2</sub>S emissions and 127 tons of H<sub>2</sub>S emissions, respectively. These emissions result from multiple processes at the plant, including, but not limited to:

- Dampering coke ovens from the gas collection system and opening standpipe caps prior to pushing coke from the ovens (“soaking”);
- Battery door leaks;
- By-product plant sources (including tar and flushing liquor decanters, flushing liquor surge tanks, flushing liquor pumphouse sumps, and by-product pitch traps);
- Gooseneck leaks (where gas is removed from each oven before passing into the collector main);
- Miscellaneous battery fugitives (including bleeder stacks, battery pitch traps, and flushing liquor return vents); and
- SCOT plant tail gas incinerator.

10. The ACHD has an air monitoring station in Liberty Borough (hereinafter “Liberty Monitor”) which records ambient air concentrations of H<sub>2</sub>S. The U.S. Steel Clairton Coke Plant is located approximately two miles south-southwest of the Liberty Monitor.

11. During the period of January 1, 2020 through March 1, 2022, the Liberty Monitor recorded hourly exceedances of the H<sub>2</sub>S ambient air concentration standard of 0.005 ppm averaged over a 24-hour period.

12. The ACHD conducted analyses of the potential sources of H<sub>2</sub>S and identified U.S. Steel's Clairton Coke Plant as the cause of the exceedances of the H<sub>2</sub>S ambient air concentration standard of 0.005 ppm, calculated as a 24-hour rolling average, at the Liberty Monitor. "Analysis and Attribution of Hydrogen Sulfide (H<sub>2</sub>S) Exceedances at the Liberty Monitoring Site from January 1, 2020 through March 1, 2022," (3/3/2022).

13. The ACHD did not identify evidence of any other source contributing to the H<sub>2</sub>S exceedances. This conclusion is based on the following findings:

- The ACHD compared H<sub>2</sub>S concentrations measured at the Liberty monitor originating from all measured wind directions under different meteorological conditions including wind speeds, strong inversions, and stagnant air events. ACHD concludes that measurable concentrations of H<sub>2</sub>S originate from one direction, south-southwest of the Liberty Monitor; no sources from any other direction contributed to H<sub>2</sub>S concentrations causing exceedances at ACHD's Liberty monitor;
- The ACHD receives annual emissions inventory statements from larger permitted air emission sources within Allegheny County. These statements are submitted by a source as a summary of emitted pollutants from their facilities. The only source which has submitted an air emissions inventory statement with H<sub>2</sub>S and is located south-southwest of the Liberty monitor is U.S. Steel Clairton Coke Plant. Another potential source of H<sub>2</sub>S located south-southwest of the Liberty monitor is

the Clairton Wastewater Treatment Plant (“Treatment Plant”) which is owned by the Clairton Municipal Authority. To determine if this source contributed to measurable ambient air concentrations, portable gas sensors (Acrulog H<sub>2</sub>S Parts Per Billion Monitor) were installed on multiple sides of the property line of the Treatment Plant to capture upwind and downwind concentrations. ACHD’s analysis of the meteorological data combined with concentrations of H<sub>2</sub>S at the fence line of the property indicates that the Treatment Plant did not contribute to H<sub>2</sub>S exceedances at the Liberty monitor;

- To determine if there are unknown regional sources of H<sub>2</sub>S that may contribute to high background concentrations of H<sub>2</sub>S, ACHD analyzed data from a regulatory H<sub>2</sub>S monitor that was located at the Avalon site to monitor emissions of H<sub>2</sub>S from Shenango Coke Works prior to the plant’s closure in 2016. The Avalon H<sub>2</sub>S monitor was still operating during 15 of the H<sub>2</sub>S exceedance days in 2020 at the Liberty Monitor. This monitor was located downwind of a significant number of abandoned mine sites and wastewater treatment plants. This monitor is also located near ALCOSAN, the largest wastewater treatment facility in Allegheny County. The 24-hour averages for the 15 overlapping exceedance days with Liberty measured 0.000 ppm of H<sub>2</sub>S at Avalon;
- There is no evidence that small, non-inventoried sources affect the Liberty Monitor H<sub>2</sub>S concentrations at any level, including exceedance levels. Therefore, based on all available data and resources, H<sub>2</sub>S exceedances measured at the Liberty Monitor during the period of January 1, 2020 through March 1, 2022 can be attributed entirely to emissions originating at U. S. Steel’s Clairton Coke Plant.

14. ACHD determined that during the period January 1, 2020 through March 1, 2022, emissions from U.S. Steel’s Clairton Coke Plant caused exceedances of the H<sub>2</sub>S ambient air concentration standard of 0.005 parts per million by volume-dry (ppm) averaged over a 24-hour period at the Liberty Monitor. 25 Pa. Code § 131.3; Article XXI § 2101.10.

15. Each calendar day that an exceedance of the 24-hour rolling average is determined constitutes a violation of Article XXI, § 2101.11.a.2. The ACHD finds that U.S. Steel Clairton Coke Plant violated Article XXI, § 2101.11.a.2, on 153 days. The total number of violations are summarized by year in the following table:

<b>Year</b>	<b>Violations</b>
2020	46
2021	94
January 1, 2022 – March 1, 2022	13
<b>Total Violations</b>	<b>153</b>

**ORDER**

**NOW THEREFORE**, pursuant to the authority granted to the ACHD by Article XXI §§ 2109.03 and 2109.06, and the Local Health Administration Law, 19 P.S. § 12010, it is hereby ORDERED that:

16. For the violations set forth in the preceding paragraphs, U.S. Steel is hereby assessed a civil penalty of **ONE MILLION EIGHT HUNDRED FORTY-TWO THOUSAND FIVE HUNDRED THIRTY DOLLARS** (\$1,842,530.00). The civil penalty is as follows:

**A. Gravity Based Component**

<b>Violation</b>	<b>Gravity Based Penalty</b>	<b>Number of Violations</b>	<b>Total Gravity Penalty</b>
Prohibition of Pollution Article XXI, § 2101.11			
Low Severity <sup>1</sup>	\$ 1,100.00	46	\$ 50,600.00
Moderate Severity <sup>2</sup>	\$ 4,750.00	50	\$ 237,500.00
Major Severity <sup>3</sup>	\$ 9,000.00	57	\$ 513,000.00
<b>GRAVITY COMPONENT SUBTOTAL</b>			<b>\$ 801,100.00</b>

**B. Adjustment Factors**

<b>Degree of Cooperation:</b>	\$ 80,110.00
<b>Compliance History:</b> 12 enforcement actions in last 2 years	\$ 801,100.00
<b>Title V Source:</b>	\$ 160,220.00
<b>TOTAL CIVIL PENALTY</b>	
	<b>\$ 1,842,530.00</b>

<sup>1</sup> Low Severity: H<sub>2</sub>S concentration greater than or equal to 0.0055 ppm and less than 0.0066 ppm.

<sup>2</sup> Moderate Severity: H<sub>2</sub>S concentration greater than or equal to 0.0066 ppm and less than or equal to 0.00825 ppm.

<sup>3</sup> Major Severity: H<sub>2</sub>S concentration greater than 0.00825 ppm.

17. U.S. Steel shall pay the civil penalty amount within thirty (30) days of receipt of this Order. Payment shall be made by corporate or certified check, or the like, made payable to the “Allegheny County Clean Air Fund”, and sent to Air Quality Program Manager, Allegheny County Health Department, 301 39th Street, Bldg. #7, Pittsburgh, PA 15201.

18. The ACHD has determined the above civil penalty to be in accordance with Article XXI § 2109.06.b reflecting relevant factors including, but not limited to: the nature, severity and frequency of the alleged violations; the maximum amount of civil and criminal penalties authorized by law; the willfulness of such violations; the impact of such violations on the public and the environment; the deterrence of future violations; the actions taken by U.S. Steel to minimize such violations and to prevent future violations; and U.S. Steel’s compliance

history.

19. The gravity-based component of the civil penalty reflects the severity of the violation and the potential harm to the public or environment from the violation. The gravity-based component may be adjusted for factors and circumstances unique to the violator.

20. The ACHD determined that a 0.1 adjustment factor for degree of cooperation is appropriate. Following the issuance of the Notice of Violation on April 1, 2021, U.S. Steel did not take any corrective actions to try to minimize or stop the exceedances of the H<sub>2</sub>S standard caused by the Clairton Coke Plant.

21. Please be advised that failure to comply with this Order within the times specified herein is a violation of Article XXI giving rise to the remedies provided by Article XXI § 2109.02 including civil penalties of up to \$25,000 per violation per day.

22. Pursuant to Article XI § 1104.A (“Hearings and Appeals”), of the Allegheny County Health Department Rules and Regulations, you are notified that if you are aggrieved by this Order, a Notice of Appeal shall be filed no later than thirty (30) days after receipt of written notice or issuance of this Order. Such a Notice of Appeal shall be filed in the Office of the Director at 542 Fourth Avenue, Pittsburgh, PA 15219. This Order is enforceable upon issuance and any appeal of this Order shall not act as a stay unless the Director of the ACHD so orders. In the absence of a timely appeal, the terms of this Order shall become final.

23. Please be aware that if you wish to appeal this Order, you are required within 30 days of receipt of this Order to either forward the penalty amount to the ACHD for placement in an escrow account or post an appeal bond to the ACHD in the amount of the penalty. Please review the specific requirements for prepaying the penalty or posting the appeal bond found in Article XXI § 2109.06.a.2-3. A copy of Article XXI and Article XI may be found at

<https://www.alleghenycounty.us/Health-Department/Health-Department-Regulations.aspx>.

**DONE** and **ENTERED** this 7<sup>th</sup> day of March 2022, in Allegheny County,  
Pennsylvania.

3/7/2022  
Date

Dean DeLuca  
Dean DeLuca  
ACHD Air Quality Program Manager