

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

PENN ENVIRONMENT, INC and
CLEAN AIR COUNCIL

Plaintiffs,

ALLEGHENY COUNTY
HEALTH DEPARTMENT

Civil Action No. 2:19-cv-00484-MJH

Plaintiff-Intervenor,

v.

UNITED STATES STEEL
CORPORATION,

Defendant.

COMPLAINT IN INTERVENTION

Plaintiff, Allegheny County Health Department (“ACHD” or the “Department” or “Plaintiff-Intervenor”), alleges:

NATURE OF ACTION

1. This is a civil action against United States Steel Corporation (“U.S. Steel” or “Defendant”) pursuant to Section 113(b) of the Clean Air Act (the “Act”), 42 U.S.C. § 7413(b), and Article XXI of the Allegheny County Health Department Rules and Regulations.

2. Plaintiff-Intervenor seeks injunctive relief and the imposition of civil penalties for violations of the Act, Allegheny County’s portion of Pennsylvania’s federally-approved State Implementation Plan (“SIP”), and U.S. Steel’s federally-enforceable SIP SO₂ and Title V permits issued for U.S. Steel’s Clairton Coke Works, Edgar Thomson Works, and Irvin Works, situated in Allegheny County, Pennsylvania.

JURISDICTION AND VENUE

3. This Court has jurisdiction over the subject matter of this action pursuant to Section 113(b) of the Act, 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1331 (Federal Question), and 1355 (Fine, Penalty, or Forfeiture).

4. This Court has supplemental jurisdiction over the local agency law claims asserted by the Department pursuant to 28 U.S.C. § 1367.

5. Venue is proper in this District under Section 113(b) of the Act, 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1391(b) and 1395(a), because the violations which are the basis of this Complaint occurred in this District and the facility at issue is operated by U.S. Steel in this District.

DEFENDANT

6. U.S. Steel is a corporation organized under the laws of Delaware with its principal place of business in Pennsylvania.

7. U.S. Steel is a “person” as defined in Section 302(e) of the Act, 42 U.S.C. § 7602(e).

8. U.S. Steel owns and operates a series of facilities situated in valley communities along either side of the Monongahela River within the boundaries of Allegheny County, PA. These facilities, together, constitute an integrated operation for the production of steel (Mon-Valley Works).

9. In particular, U.S. Steel owns and operates a facility in Clairton, Allegheny County, Pennsylvania (Clairton Coke Works). Clairton Coke Works operates ten coke batteries and produces approximately 10,000 tons of coke per day from the destructive distillation (carbonization) of more than 16,000 tons of coal. During the carbonization process, approximately 215 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 include 145,000 gallons of crude coal tar, 55,000 gallons of light oil, 35 tons of elemental sulfur, and 50 tons of anhydrous ammonia.

10. The coke oven gas that is desulfurized is transported via pipelines to its Edgar Thomson (Edgar Thomson Works) facility situated across the river in Braddock, Allegheny County, PA. Edgar Thomson Works operates primarily for the production of steel slabs employing two blast furnaces. Coke oven gas from Clairton Coke Works is used as fuel in boilers located at Edgar Thomson Works.

11. The coke oven gas that is desulfurized at Clairton Coke Works is similarly transported via pipeline to U.S. Steel's Irvin (Irvin Works) facility situated in West Mifflin, Allegheny County, PA. Irvin Works treats and rolls the steel slabs produced at the Edgar Thomson Works. Coke oven gas from Clairton Coke Works is similarly used at Irvin Works as a fuel source.

STATUTORY AND REGULATORY BACKGROUND

12. The Clean Air Act establishes a regulatory scheme to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. 42 U.S.C. § 7401(b)(1).

A. National Ambient Air Quality Standards

13. Section 108 of the Act, 42 U.S.C. § 7408, directs the United States Environmental Protection Agency (EPA) to identify air pollutants that "may reasonably be anticipated to endanger public health or welfare" and to issue air quality criteria based on "the latest scientific knowledge" about the effects of the pollutants on public health and the environment. These pollutants are known as "criteria pollutants."

14 Section 109 of the Act, 42 U.S.C. § 7409, requires the EPA to establish national ambient air quality standards (“national standards” or “NAAQS”) for criteria pollutants. The primary standard must be set at a level “requisite to protect the public health” with an adequate margin of safety, and the secondary standard is intended to protect “the public welfare.”

15. Sulfur dioxide (SO₂) is one of six criteria pollutants for which the EPA has promulgated national standards, due to its adverse effects on human health and the environment.

B. Pennsylvania State Implementation Plan (“SIP”)

16. Section 110(a) of the Act, 42 U.S.C. § 7410(a), requires each state and local air agencies to adopt and submit to the EPA for approval a plan that provides for the attainment, maintenance, and enforcement of the NAAQS for each criteria pollutant in each air quality control region within the state. This plan is known as a state implementation plan or “SIP.” Section 110(a)(2)(A) of the Act, 42 U.S.C. § 7410(a)(2)(A), requires that each SIP include enforceable emissions limitations to assure attainment of the NAAQS.

17. After enforceable state emissions limitations are approved by EPA, these SIP provisions (or “SIP rules”) are federally enforceable under Sections 113(a) and (b) of the Act, 42 U.S.C. § 7413(a) and (b).

18. The Director of the ACHD has been delegated authority pursuant to the Act, 42 U.S.C. Sections 7401-7671q, 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").

19. As required by the Act, the Department has established emission limitations to provide for the attainment, maintenance, and enforcement of the national standards.

C. Title V Operating Permits

20. Title V of the Act, 42 U.S.C. §§ 7661-7661f, establishes an operating permit program for certain sources, including "major sources." The purpose of Title V is to ensure that all "applicable requirements" for compliance with the Act are collected in one place.

21. The Clairton Coke Works, Edgar Thomson Works, and Irvin Works are major sources for purposes of Title V.

22. The Department has issued Title V permits with respect to each of the Mon-Valley facilities. Importantly, the Department issued federally enforceable SIP permits for each facility, imposing emission limitations intended to ensure attainment of the NAAQS.

23. Pursuant to Section 502(a) of the Act, 42 U.S.C. § 7661a, it is unlawful for a major source to operate without or in violation of a permit issued pursuant to Title V of the Act, 42 U.S.C. § 7661 *et seq.* ***See also*** 40 C.F.R. § 70.7(b); Article XXI, § 2102.03.c.

24. The Allegheny County Title V operating permit program was approved by the EPA on November 1, 2001. ***See*** 66 Fed. Reg. 55,112-15 (November 1, 2001). Regulations controlling the issuance, conditions imposed and enforcement of those Title V permits are, in relevant part, currently codified in Article XXI of the Allegheny County Health Department Rules and Regulations (Article XXI). Article XXI, Sections 2102.01 *et seq.*, 2103.01 *et seq.* In addition,

Article XXI incorporates by reference and enforces the NAAQS. *See* Article XXI, Section 2101.10.a

25. Pursuant to Article XXI, Section 2102.03.c, the owner or operator of a major stationary source must assure that the source operates in compliance with the terms and conditions of its permit. *See also* 40 C.F.R. § 70.1(b).

26. Pursuant to its authority under Title V of the Act, the Department issued U.S. Steel a Title V Operating Permit, No. 0052, on March 27, 2012, to operate emissions sources at the Clairton Coke Works facility.

27. Pursuant to its authority under Title V of the Act, the Department issued U.S. Steel a Title V Operating Permit, No. 0051, on April 13, 2016, to operate emissions sources at the Edgar Thomson Works facility.

28. Pursuant to its authority under Title V of the Act, the Department issued U.S. Steel a Title V Operating Permit, No. 0050, on December 9, 2016, to operate emissions sources at the Irvin Works facility.

29. Thereafter, the Department, as a part of its SO₂ SIP, issued Installation Permits for each of the Mon-Valley facilities, imposing new SO₂ and hydrogen sulfide (H₂S) emission limits.

30. Specifically, U.S. Steel's Clairton Installation Permit #0052-I011b (Condition IV.27), Edgar Thomson's Installation Permit #0051-I006 (Condition IV.27), and Irvin's Installation Permit #0050-I008 (Condition IV.25), all of which were issued on September 14, 2017, impose a site wide limit for H₂S emissions to no more than 35 grains per 100 dry standard cubic feet (dscf).

31. The permit conditions and emission limits with respect to SO₂ at each of the Mon-Valley Works facilities are as follows:

I. **U. S. Steel Irvin’s Operating Permit #0050**

Condition V.A.1.f

Emissions from the Hot Strip Mill Reheat Furnaces No. 1 through No. 5 shall not exceed the emission limitations in the table below.

Emission Limitations for each Hot Strip Mill Reheat Furnace

POLLUTANT	Coke Oven Gas (lb/hr)	Natural Gas (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
SO ₂	30.12	0.08	131.91

Condition V.E.1.c.

The permittee shall not operate, or allow to be operated, HPH furnaces No. 1 through No. 31 in such manner that emissions of sulfur oxides from each furnace, expressed as sulfur dioxide, exceed 1.0 lb/MMBtu at any time: [§2104.03.a.2.A]

Condition V.E.1.e.

Emissions from HPH furnaces No. 1 through No. 31, shall not exceed the limitations in the table below at any time: [§2104.02.d.1, §2104.03.a.2.A and §2105.21.h.4]

HPH Annealing Furnace Emissions

POLLUTANT	lbs/hr – each unit (natural gas)	lbs/hr – each unit (coke oven gas)	tons/yr ¹ (each unit)	tons/yr ¹ (combined)
SO ₂	0.003	1.05	4.62	143.22

Condition V.F.1.g.

The permittee shall not operate, or allow to be operated, Open Coil Annealing Furnaces No. 1 through No. 13 in such manner that emissions of sulfur oxides, expressed as sulfur dioxide, exceed 1.0 lb/MMBtu at any time: [§2104.03.a.2.A]

Condition V.F.1.i.

Emissions from Open Coil Annealing Furnaces No. 1 through No. 9, shall not exceed the limitations for each furnace in the table below at any time: [§2104.02.a.1, §2104.03.a.2.A and §2105.21.h.4]

Open Coil Annealing Furnace 1 through 9 Emissions

POLLUTANT	lbs/hr – each unit (natural gas)	lbs/hr – each unit (coke oven gas)	tons/yr¹ (each unit)	tons/yr¹ (combined)
SO₂	0.004	1.55	6.78	61.06

¹ A year is defined as any consecutive 12-month period

Condition V.F.1.j.

Emissions from Open Coil Annealing Furnaces No. 10 through No. 13, shall not exceed the limitations for each furnace in the table below at any time: [§2104.02.a.1, §2104.03.a.2.A and §2105.21.h.4]

Open Coil Annealing Furnace 10 through 13 Emissions

POLLUTANT	lbs/hr – each unit (natural gas)	lbs/hr – each unit (coke oven gas)	tons/yr¹ (each unit)	tons/yr¹ (combined)
SO₂	0.01	1.94	8.48	33.92

¹ A year is defined as any consecutive 12-month period

Condition V.F.1.k.

Emissions from Open Coil Annealing Furnace No. 14, shall not exceed the limitations in the table below at any time: [Installation Permit No. 0050-I003, §2104.02.a.1, §2104.03.a.2.A and §2105.21.h.4]

Open Coil Annealing Furnace No. 14 Emission Limitations

POLLUTANT	lbs/hr (natural gas)	lbs/hr (coke oven gas)	tons/yr ¹
SO₂	0.004	0.12	0.53

¹ A year is defined as any consecutive 12-month period

Condition V.F.1.n.

Emissions from Open Coil Annealing Furnaces No. 15 and No. 16, shall not exceed the limitations in the table below at any time: [§2102.04.b.6, §2105.21.h.4 and IP No. 0050-I006, Condition V.a.1.e]

Open Coil Annealing Furnaces No. 15 and No. 16 Emission Limitations

POLLUTANT	lbs/hr – each furnace (natural gas)	lbs/hr – each furnace (coke oven gas)	tons/yr ¹ – (each furnace)	Tons/yr¹ – (both furnaces)
SO₂	0.005	1.61	7.04	14.10

¹ A year is defined as any consecutive 12-month period

Condition V.G.1.e.

The permittee shall not operate, or allow to be operated, Continuous Annealing furnace in such manner that emissions of sulfur oxides, expressed as sulfur dioxide, exceed 1.0 lb/mmBtu at any time: [§2104.03.a.2.A]

Condition V.G.1.g.

Emissions from Continuous Annealing Line furnace, shall not exceed the limitations specified in the table below at any time: [§2104.02.a.1, §2104.03.2.A, §2105.21.h.4]

Continuous Annealing Furnace Emissions Limitations

POLLUTANT	lbs/hr (natural gas)	lbs/hr (coke oven gas)	tons/yr ¹
SO₂	0.03	9.68	42.40

¹ A year is defined as any consecutive 12-month period

Condition V.K.1.f.

Emissions from Boiler No. 1, shall not exceed the limitations specified in the table below at any time: [§2104.03, §2104.02.b, §2105.21.h.4]

Boiler No. 1 Emission Limitations

POLLUTANT	lbs/hr (natural gas)	lbs/hr (coke oven gas)	tons/yr ¹
SO₂	0.05	17.17	45.90

¹ A year is defined as any consecutive 12-month period

Condition V.L.1.f.

Emissions from Boiler No. 2, shall not exceed the limitations in the table below at any time: [§2104.03, §2104.02.b, §2105.21.h.4]

Boiler No. 2 Emissions Limitations

POLLUTANT	lbs/hr (natural gas)	lbs/hr (coke oven gas)	tons/yr ¹
SO₂	0.05	18.20	45.90

¹ A year is defined as any consecutive 12-month period

Condition V.M.1.f.

Emissions from Boiler No. 3, shall not exceed the limitations specified in the table below at any time: [§2104.03, §2104.02.b, §2105.21.h.4]

Boiler No. 3 Emission Limitations

POLLUTANT	lbs/hr (natural gas)	lbs/hr (coke oven gas)	tons/yr ¹
SO₂	0.03	8.95	39.20

¹ A year is defined as any consecutive 12-month period

Condition V.N.1.e.

Emissions from Boiler No. 4, shall not exceed the limitations specified in the table below at any time: [§2104.03, §2104.02.b, §2105.21.h.4]

Boiler No. 4 Emission Limitations

POLLUTANT	lbs/hr (natural gas)	lbs/hr (coke oven gas)	tons/yr ¹
SO₂	0.03	8.95	39.20

¹ A year is defined as any consecutive 12-month period.

II. U. S. Steel Irvin's Installation Permit #0050-I008

Condition V.A.1.b.

SO₂ emissions from the following sources shall not exceed the limitations in the table below: [§2102.04.b.6, §2105.21.h]

SO₂ Emission Limitations

Process	30 day Rolling Average Limit* (lb/hr)	Supplementary 24-hr Limit** (lb/hr)
Boiler #1	7.88	8.92
Boiler #2	8.36	9.46
Boilers #3-4 (aggregate)	8.21	9.30
80" Hot Strip Mill (aggregate)	108.63	118.75
HPH Annealing Furnaces	12.00	13.58
Open Coil Annealing (aggregate)	11.50	13.02
Continuous Annealing	8.07	9.14

* Limits are based on a rolling 30-day average of 24-hour (calendar day) averages.

** Supplementary 24-hour limit is not to be exceeded more than 3 times consecutively (over any consecutive 3 calendar day period).

III. **U. S. Steel Clairton’s Operating Permit #0052**

Condition V.A.1.v.

Emissions from each combustion stack for Coke Batteries No. 1, No. 2 or No. 3 shall not exceed the emission limitations in the table below. [§2105.21.f.2; §2105.21.h.4; §2103.12.e; §2101.11.b & c.]

Emission Limitations for Batteries No. 1, No. 2, or No. 3 Combustion Stack (each stack)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)¹
SO ₂	31.8	139.46

Condition V.C.1.v.

Emissions from each combustion stack for Coke Batteries No. 13, No. 14 or No. 15 shall not exceed the emission limitations in the table below. [§2105.21.f.2, §2105.21.h.4 and, §2101.11.b & c].

**Emission Limitations for Battery No. 13, Battery No. 14, or
Battery No. 15 Combustion Stack (each stack)**

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)¹
SO ₂	33.5	146.5

¹ A year is defined as any consecutive 12-month period.

Condition V.E.1.bb.

Emissions from Coke Battery No.19 combustion stack shall not exceed the emission limitations in table below. [§2105.21.f.2, §2105.21.h.4 and

§2103.12.a.2.B]

Emission Limitations for Battery No. 19 Combustion Stack

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
SO ₂	61.53	269.48

¹ A year is defined as any consecutive 12-month period.

Condition V.E.1.cc.

Emissions from Coke Battery No.20 combustion stack shall not exceed the emission limitations in the table below. [§2105.21.f.1, §2105.21.h.4 and §2103.12.a.2.B]

Emission Limitations for Battery No. 20 Combustion Stack

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
SO ₂	61.5	269.52

A year is defined as any consecutive 12-month period.

Condition V.G.1.v.

Emissions from Coke Battery B combustion stack shall not exceed the emission limitations in the table below. [§2105.21.f.2, §2105.21.h.4 and §2103.12.a.2.B)] .

Emission Limitations for Battery B Combustion Stack

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
SO ₂	91.5	400.95

A year is defined as any consecutive 12-month period.

Condition V.K.1.c.2

The permittee shall, at all times: [Enforcement Order No. 200, November 18, 1994]

...

- 2) Operate one Claus Plant when coke oven gas is being produced.

Condition V.K.1.d.1

The permittee shall: [Enforcement Order No. 200, November 18, 1994]

- 1) Operate and maintain an HCN (hydrogen cyanide) Destruct Unit at all times that coke oven gas is being produced.

Condition V.K.1.e.1 and V.K.1.e.4

The permittee shall: [Enforcement Order No. 200, November 18, 1994]

- 1) Operate and maintain a Vacuum Carbonate Unit at all times that coke oven gas is being produced at the Clairton Works.

* * *

- 4) Operate one absorber column and one Axi compressor at all times when coke oven gas is being produced.

Condition V.K.1.f.3

The permittee shall: [Enforcement Order No. 200, November 18, 1994]

* * *

- 3) Operate one stripper in its Vacuum Carbonate Unit at all times when coke oven gas is being produced.

Condition V.K.1.i.

The permittee shall not operate, or allow to be operated, any process, except for miscellaneous sulfur-emitting processes for which there is an emissions standard under Part E of Article XXI, in such manner that the concentration of sulfur oxides, expressed as sulfur dioxide, in the effluent gas exceeds 500 ppm (dry basis) at any time. [§2104.03.c]

Condition V.M.1.a.

At no time shall the permittee operate the by-products plant unless the clean coke oven gas blanketing system is being properly maintained and operated at all times while the plant process units blanketed by the system are emitting VOCs, with the exception of emergency or planned outages, repairs or maintenance. [§2105.06; RACT Plan 234]

Condition V.AA.1.j.

Emissions Limitations: Emissions from Boiler B001 shall not exceed the limits listed in the table below at any time: [§2105.06.b.5; §2105.03]

Boiler 1 Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year) ¹
SO ₂	163.50 ²	716.11 ²

¹ A year is defined as any consecutive 12-month period.

² County-only enforceable. (§2103.22.d.)

Condition V.BB.1.b.

The permittee shall not flare, mix or combust coke oven gas, or allow such gas to be flared, mixed, or combusted in Boiler No. 2, unless the concentration of sulfur compounds, measured as hydrogen sulfide, in such gas is less than or equal to 40 grains per hundred dry standard cubic feet of coke oven gas. [§2105.21.h.4]

Condition V.BB.1.k.

Emissions Limitations: Emissions from Boiler No. 2 (B002) shall not exceed the limits listed in the table below at any time: [§2105.06.b.5; §2105.03]

B002 Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
SO ₂	103.48 ²	453.22 ²

¹ A year is defined as any consecutive 12-month period.

² County-only enforceable. (§2103.22.d.)

Condition V.CC.1.h.

Emissions Limitations: Emissions from each boiler (Boiler R1 and Boiler R2) shall not exceed the limits listed in the table below at any time: [§2105.06.b; §2105.03]

Emission Limitations for Boiler R1 or Boiler R2 (B005 or B006)

POLLUTANT	HOURLY EMISSION LIMIT Per Boiler (lb/hr)	ANNUAL EMISSION LIMIT Per Boiler (tons/year) ^{1*}
SO ₂	49.26 ²	215.78 ²

¹ A year is defined as any consecutive 12-month period.

² County-only enforceable. (§2103.22.d.)

Condition V.DD.1.i.

Emissions from Boiler T1 or Boiler T2 (B007 or B008) shall not exceed the limits listed in the table below at any time: [§2105.03]

Emission Limitation for Boilers T1 or T2

POLLUTANT	HOURLY EMISSION LIMIT Per Boiler (lb/hr)	ANNUAL EMISSION LIMIT Per Boiler (tons/year)*
SO ₂	33.56	146.99

*** A year is defined as any consecutive 12-month period.**

IV. U.S. Steel Clairton’s Installation Permit #0052-I011b

Condition V.A.1.hh.

Emissions from C Battery combustion stack and the Pushing Emission Control Baghouse stack shall not exceed the limitations in Tables 1 and 2, respectively: [§2102.04.b.6; 2105.21.f; IP 0052-I017, Condition V.A.1.b]

Table 1 - C Battery Combustion Stack Emission Limitations

POLLUTANT	LBS/HR	TPY ¹
Total Reduced Sulfur	2.0	8.80

¹ A year is defined as any 12 consecutive months.

TABLE 2 – SO₂ Emission Limitations for C Battery Combustion Stack

30 day rolling average limit (lb/hr)*	Supplementary 24-hr Limit* (lb/hr)	Tons/year**
32.03	40.83	140.29

*Limits are based on a rolling 30-day average of 24-hour (calendar day) averages, with an additional restriction of no more than 3 consecutive days above a supplementary 24-hour limit. These limits are based on ACHD’s SO₂ State Implementation Plan (SIP) Permit Revision and USEPA SO₂ Guidance dated September 14, 2017.

** Tons/year value is used to demonstrate the expected tons/year from this unit. The value is derived by converting the 30-day rolling average limit lb/hr to an annual tons per year value. These limits are based on ACHD’s SO₂ State Implementation Plan (SIP) Permit Revision and USEPA SO₂ Guidance dated September 14, 2017.

V. **U.S. Steel Clairton’s Installation Permit #0052- I017**

Condition V.A.1.b.

SO₂ emissions from the following sources shall not exceed the limitations in the table below: [§2102.04.b.6, §2105.21.h]

SO₂ Emission Limitations

Process	Thirty-day (30-day) Emission Limit* (lb/hr)	Supplementary 24-hr Limit** (lb/hr)
Boiler 1	118.44***	134.06***
Boiler 2		
Boiler R1		
Boiler R2		
Boiler T1		
Boiler T2		
Battery 1 Underfiring	10.41	13.27
Battery 2 Underfiring	9.15	11.66
Battery 3 Underfiring	10.57	13.47
Battery 13 Underfiring	13.93	15.70
Battery 14 Underfiring	14.03	15.80
Battery 15 Underfiring	18.67	21.04
Battery 19 Underfiring	29.37	33.09
Battery 20 Underfiring	27.00	30.42
B Battery Underfiring	21.38	27.26
C Battery Underfiring	32.03	40.83

* Limits are based on a rolling 30-day average of 24-hour (calendar day) averages.

** Supplementary 24-hour limit is not to be exceeded more than 3 times consecutively (over any consecutive 3 calendar day period).

*** Emission limits are on an aggregate basis.

VI. **U.S. Steel Edgar Thomson's Operating Permit #0051**

Condition V.A.1.s.

The permittee shall not operate, or allow to be operated, process P001a or P002a, in such manner that the concentration of sulfur oxides, expressed as sulfur dioxide, in the effluent gas exceeds the lesser of the potential to emit or 500 ppm (dry volumetric basis) at any time [§2104.03.c].

Condition V.B.1.d.

Emissions from the No. 1 or No. 3 Blast Furnace Stoves shall not exceed the emission limitations in the table below: (§2104.03.a.2.B, §2104.02.b, §2103.12.a.2.B)

Emission Limitations for the No. 1 or No. 3 Blast Furnace Stoves

POLLUTANT	Hourly Emission Limit For Each Set Of Stoves (lb/hr)	Annual Emission Limit For Each Set Of Stoves (tons/year)*
Sulfur Oxides**	353.03	1,546.26

* A year is defined as any consecutive 12-month period.

** Expressed as sulfur dioxide.

Condition V.D.1.t.

The permit shall not operate the BOP Mixer and Desulfurization baghouse (stack S005) in such a manner that the concentration of sulfur oxides, expressed as sulfur dioxide, in an effluent gas exceeds the lesser of the potential to emit or 500 ppm (dry volume basis) (§2104.03.c).

Condition V.F.1.c.

Emissions from the Caster Tundish Preheaters shall not exceed the emissions limitations in the table below: (Permit No. 7035003-002-93900, issued March 1, 1994; §2101.05.a.1; §2103.12.a.2.B)

Caster Tundish Preheaters Emission Limitations

Pollutant	Annual Emission Limit (tons/year)*
Sulfur Oxide	23.0

* A year is defined as any consecutive 12-month period.

Condition V.G.1.d.

The concentration of sulfur oxides expressed as sulfur dioxide, in the effluent gas from the Vacuum Degasser shall not exceed the lesser of the potential to emit or 500 ppm (dry volumetric basis) at any time [§2104.03.c].

Condition V.H.1.c.

The permittee shall not operate Riley Boilers No. 1, 2 or 3, where the actual heat input is greater than 50 MMBtu/hr, but less than 2000 MMBtu/hr, in such a manner that emissions of sulfur oxides, expressed as sulfur dioxide (SO₂), exceed the rate determined by the formula: (§2104.03.a.2.B)

$$A = 1.7E^{-0.14}$$

Where A = allowable emissions in lbs/MMBtu of actual heat input
 E = actual heat input in MMBtu/hr.

Condition V.H.1.h.

Emissions from each Riley Boilers No. 1, 2 or 3 shall not exceed the limitations in the table below at any time: (§2103.12.a.2.b; §2102.04.b.5; §2104.02.a.3; §2104.03; §2104.03.a.2.B; RACT Order No. 235).

Riley Boilers Emission Limitations

Pollutant	Hourly Emission Limit Per Boiler (lb/hr)	Annual Emission Limit (Per Boiler) (TPY)⁽¹⁾
Sulfur Oxides	371.35	1,626.52

(1) A year is defined as any consecutive 12-month period.

(2) Based on a 30 day rolling average limit of 0.55 lbs/MMBtu.

VII. **U.S. Steel Edgar Thomson's Installation Permit #0051-I006**

Condition V.A.1.c.

SO₂ emissions from the following sources shall not exceed the limitations in the tables below: [§2102.04.b.6, §2105.21.h.4]

Combustion Unit Emission Limitations

PROCESS/EQUIPMENT	MAXIMUM ALLOWABLE SO₂ EMISSION RATE (lb/hr)
Riley Boiler 1	556.91 (On a combined stack basis)
Riley Boiler 2	
Riley Boiler 3	
Blast Furnace 1 Stoves	98.50
Blast Furnace 3 Stoves	90.00

Emission Limitations (Non-Combustion)

PROCESS/EQUIPMENT	MAXIMUM ALLOWABLE SO₂ EMISSION RATE (lb/hr)
Blast Furnace 1 Casthouse (roof & fume suppression)	2.01
Blast Furnace 3 Casthouse (roof & fume suppression)	1.69
BOP Process (roof)	6.64
Continuous Casting (roof)	5.25
Casthouse Baghouse	45.10

FACTUAL BACKGROUND

32. Clairton Coke Works produces metallurgical-grade coke using the by-product process. The coke is used in blast furnaces (and hence sometimes referred to as “furnace coke”) for the production of steel.

33. Coke is produced by heating coal in coke ovens, in the absence of oxygen, until most of the volatile compounds are driven off. The remaining material is a carbon mass called coke. This process also produces coke oven gas (“COG”).

34. Coke ovens are long, narrow brick chambers. They are grouped together in “batteries” to conserve heat and space. There are ten coke oven batteries at the Clairton Works facility, numbered 1, 2, 3, 13, 14, 15, 19, 20, B, and C.

35. Each coke oven battery (and hence each oven) has three sides: “pusher” side, “coke” side, and “top” side.

36. In addition to the ten coke oven batteries, the Clairton Works facility has a by-products recovery plant that includes a desulfurization process for the removal of sulfur contained in the raw COG. The COG that leaves the desulfurization process is “clean” COG that is then directed back into the coke ovens as fuel to underfire the coke oven batteries. The clean COG is also delivered downstream, via pipeline, to U.S. Steel’s Edgar Thomson and Irvin facilities as a fuel source servicing those facilities.

37. On December 24, 2018, the Clairton Works facility experienced a fire that required the immediate shutdown of the No. 2 and No. 5 Control Rooms. The shutdown of those two control rooms resulted in the diversion of raw coke oven gas away from the desulfurization process of the facility's by-products operation.

38. By virtue of the diversion of the coke oven gas away from the desulfurization process, U.S. Steel caused high-sulfur, coke oven gas to flow towards its Edgar Thomson and Irvin facilities and allowed for sulfur compounds, including but not limited to sulfur dioxide (SO₂), to be released from various flaring stacks, and into the ambient air.

39. By virtue of U.S. Steel's inability to desulfurize the coke oven gas from the coke ovens batteries, coupled with the diversion and flaring of that raw coke oven gas entering the atmosphere, U.S. Steel violated its permitted emissions limitations at each of the Mon-Valley Works facilities every day on and after December 24, 2018.

40. In an effort to mitigate the release of pollutants into the air, U.S. Steel attempted to dilute coke oven gas (which otherwise would have been reintroduced as fuel at its coke ovens, as well as various other processes at its Edgar Thomson and Irvin facilities) with natural gas.

41. Between December 24, 2018 and January 8, 2019, air quality monitors, in areas affected by U.S. Steel's operations, recorded no fewer than six exceedances of the NAAQS developed by the EPA. In particular, those standards are 75 parts per billion (ppb) on an hourly basis for SO₂. *See* 75 Fed. Reg. 35,520.

42. While such exceedances are attributable to U.S. Steel's activity at Clairton following the December 24 fire and its attempts to mitigate further exceedances of the standards, the Department understood the emergent nature of the event. Based on information demanded of and received from U.S. Steel, the Department determined that such efforts stood a chance of avoiding further exceedances and mitigate the risk of harm to public health.

43. Then, on February 2, 3 and 4, 2019, the air quality monitor situated in the Liberty Borough registered 24-hour averages for particulate matter with diameters that are generally 2.5

micrometers and smaller (PM_{2.5}) of no less than 60 micrograms per cubic meter (µg/m³). The monitor stationed at North Braddock, and closest in proximity to Edgar Thomson Works, registered a one hour exceedance for SO₂ of 82 parts per billion (ppb) on February 4.

44. It was only upon a closer review of the emissions data reported by U.S. Steel that the full scope of the problem become apparent. Specifically, U.S. Steel's own emissions data revealed that just prior to and following the December 24 fire, its H₂S grain loading across its Mon Valley facilities exceeded their permitted emissions limitations.

45. As noted above, U.S. Steel's Clairton Installation Permit #0052-I011b (Condition IV.27), Edgar Thomson's Installation Permit #0051-I006 (Condition IV.27), and Irvin's Installation Permit #0050-I008 (Condition IV.25) impose a site wide limit for H₂S emissions to no more than 35 grains/100 dscf. However, as a part of the breakdown report it submitted following the December 24 fire, U.S. Steel has acknowledged an exceedance of the H₂S limit of 35 grains/100 dscf.

46. Also notable is the full scope of the emission of SO₂ into the air despite attempted mitigation efforts. Indeed, U.S. Steel's SO₂ emissions skyrocketed after the fire as noted in the chart below

47. Of grave concern, beyond the NAAQS exceedances experienced at the monitors, are the calculated emissions from U.S. Steel itself.

48. Specifically, U.S. Steel's calculations indicate that on January 29, 2019, the flaring of coke oven gas which took place at the Irvin facility and which was intended to dilute the emission of SO₂, in fact, pushed approximately ***20 tons of SO₂ into the atmosphere.***

49. Notwithstanding the fact that U.S. Steel is subject to a H₂S grain loading standard of 35 grains/100 dscf, as of January 29, 2019, Batteries 1-3, 13-15, and Batteries 19, 20, B, and C averaged 100.28 and 161.97 grains/100 dscf, respectively.

50. Based on the foregoing information provided by U.S. Steel concerning its SO₂ emissions across all three of its Mon-Valley facilities, the Department concluded that the current pollution mitigation strategy was not working.

51. As a consequence of its violation of Article XXI and due to the inability of its mitigation strategy to control the emission of SO₂ and PM_{2.5}, the Department, via Enforcement Order #190202, directed U.S. Steel to take specific corrective actions to address the Department's concerns.

52. On March 7, 2019, pursuant to Paragraph 2 of the Allegheny County Health Department's Hearing Officer's March 1, 2019 Administrative Order and consistent with Paragraph 8 of Enforcement Order #190202, U.S. Steel submitted to the Department its Notice of Material Impossibility and Conflict of Legal Requirements explaining why it was materially impossible to comply with Enforcement Order #190202.

53. Following a conference between the Department and U.S. Steel, the Department determined that by April 1, 2019, U.S. Steel would have enough axial compressors installed to subsequently begin the startup process to the desulfurization facility.

54. It also determined that by April 15, 2019, repairs to Control Room No. 2 would be sufficiently complete to resume desulfurization of coke oven gas in a manner that is both safe and will not result in degraded environmental compliance.

55. The Department also concluded that while extending coking times to 30 and 36 hours would not be environmentally or operationally prudent (due to the short time until the

resumption of Control Room No. 2's operation), extended coking time was required to decrease SO₂ emissions. The Department has concluded that, in this instance, extending coking times to 27 hours can be accomplished quickly and safely and will facilitate the resumption of full operation once repairs are complete.

56. Similarly, because repairs to Control Room No. 2 were almost complete, the time necessary to bring the batteries to hot idle would not result in appreciable environmental benefit over those few days in which the batteries would be idle.

57. It was the Department's understanding that although U.S. Steel was in compliance with Enforcement Order #190202 (regarding the reduction of coke oven gas use for the boilers at the Edgar Thomson Works), it is impossible to operate those boilers solely on natural gas, in the event of a "severe upset" or dual blast furnace outage.

58. On March 12, 2019, following discussions with U.S. Steel, the Department issued an amended order (Enforcement Order #190202A) compelling U.S. Steel to extend the time of the coking process.

59. Although U.S. Steel filed a notice of appeal challenging aspects of Enforcement Order #190202, it subsequently withdrew its appeal following the issuance of Enforcement Order #190202A.

60. No appeal was taken with respect to Enforcement Order #190202A.

61. Although Enforcement Order #190202A required U.S. Steel to take measures to mitigate the release of H₂S and SO₂ into the atmosphere, no civil penalty was imposed pending the repair of the Control Room and complete desulfurization resumed at the Clairton Coke Works.

62. Notwithstanding the imposition of Enforcement Order #190202A, on March 28, 2019, there was an exceedance of the NAAQS SO₂ limit at the Liberty monitor attributable to U.S. Steel's activity.

63. On April 4, 2019, U.S. Steel reported to the Department that it had resumed desulfurization to 100% of the coke oven gas generated at the Clairton Coke Works facility.

GENERAL ALLEGATIONS

64. At all times relevant to the Complaint, U.S. Steel has owned and operated the Clairton Coke Works, Edgar Thomson Works, and Irvin Works facilities.

65. The Clairton Coke Works is a coke production and by-product recovery facility.

66. The Edgar Thomson Works is an iron and steel making facility that primarily makes steel slabs.

67. The Irvin Works is a secondary steel processing and finishing facility. It receives the steel slabs produced at the Edgar Thomson Works and performs one of many finishing processes on the steel slabs.

68. All three facilities are "major sources" for purposes of Title V of the Clean Air Act.

FIRST CLAIM FOR RELIEF

(SO₂ and H₂S exceedances at Clairton Coke Works)

69. Paragraphs 1 through 68 are re-alleged and incorporated herein by reference.

70. U.S. Steel's Clairton Installation Permit #0052-I011b (Condition IV.27) imposes a site wide limit for H₂S emissions to no more than 35 grains/100 dscf.

71. U.S. Steel’s Clairton Operating Permit similarly imposes emissions limits with respect to its SO₂ emissions.

72. Notwithstanding the permit limits found in its various permits, the NAAQS limits ambient air concentrations for SO₂ to 75 ppb or below on an hourly basis.

73. As noted *supra*, Section 2102.03.c of the Allegheny County Health Department Rules and Regulations provides as follows:

§2102.03 PERMITS GENERALLY *{Paragraph a.1 & d.2 & Subsections i & j amended, and k & l added September 6, 1995, effective October 20, 1995}*

* * *

c. **Conditions.** It shall be a violation of this Article giving rise to the remedies provided by Part I of this Article for any person to fail to comply with any terms or conditions set forth in any permit issued pursuant to this Part.

74. Likewise, Article XXI, Section 2101.10 specifically incorporates by reference the national ambient air quality standards promulgated by the EPA.

75. Section 2101.11 (Prohibition of Air Pollution) states that it “shall be a violation of this Article to fail to comply with ... any requirement of this Article.” Moreover, it proscribes that no one shall, “through the failure to provide and operate the necessary control equipment or to take the necessary precautions, operate any source of air contaminants in such manner that emissions from such source ... cause an exceedance of the ambient air quality standards established by § 2101.10 of this Article [or] may reasonably be anticipated to endanger the public health, safety or welfare.”

76. On December 24, 2018 and every day thereafter, U.S. Steel allowed the emission of H₂S in exceedance of 35 grains/100 dscf in violation of its federally enforceable SIP permit.

77. On December 24, 2018 and every day thereafter, U.S. Steel allowed the emission of SO₂ in exceedance of its permitted emissions limitation at Clairton Coke Works.

78. On numerous occasions following the December 24, 2018 fire, Clairton Coke Works exceeded the NAAQS ambient air concentration standard for SO₂.

79. As a result of these violations, U.S. Steel has illegally allowed the exceedance of emissions of both H₂S and SO₂ in violation of the Clairton Coke Work's Installation Permit, Article XXI, and the NAAQS.

80. Pursuant to Article XXI, Section 2109.06.a.1, U.S. Steel is liable for injunctive relief and civil penalties of up to \$25,000 per day for each violation occurring on or after December 24, 2018 and attributable to the December 24, 2018 fire.

SECOND CLAIM FOR RELIEF

(SO₂ and H₂S exceedances at Edgar Thomson Works)

81. Paragraphs 1 through 80 are re-alleged and incorporated herein by reference.

82. U.S. Steel's Edgar Thomson Installation Permit #0051-I006 (Condition IV.27), imposes a site wide limit for H₂S emissions to no more than 35 grains/100 dscf.

83. U.S. Steel's Edgar Thomson Operating Permit similarly imposes emissions limits with respect to its SO₂ emissions.

84. Notwithstanding the permit limits found in its various permits, the NAAQS limits ambient air concentrations for SO₂ to 75 ppb or below on an hourly basis.

85. As noted *supra*, Section 2102.03.c of the Allegheny County Health Department Rules and Regulations provides as follows:

§2102.03 PERMITS GENERALLY *{Paragraph a.1 & d.2 & Subsections i & j amended, and k & l added September 6, 1995, effective October 20, 1995}*

* * *

c. **Conditions.** It shall be a violation of this Article giving rise to the remedies provided by Part I of this Article for any person to fail to comply with any terms or conditions set forth in any permit issued pursuant to this Part.

86. Likewise, Article XXI, Section 2101.10 specifically incorporates by reference the national ambient air quality standards promulgated by the federal EPA.

87. Section 2101.11 (Prohibition of Air Pollution) states that it “shall be a violation of this Article to fail to comply with ... any requirement of this Article.” Moreover, it proscribes that no one shall, “through the failure to provide and operate the necessary control equipment or to take the necessary precautions, operate any source of air contaminants in such manner that emissions from such source ... cause an exceedance of the ambient air quality standards established by § 2101.10 of this Article [or] may reasonably be anticipated to endanger the public health, safety or welfare.”

88. On December 24, 2018 and every day thereafter until April 4, 2019, U.S. Steel allowed the emission of H₂S in exceedance of 35 grains/100 dscf in violation of its federally enforceable SIP permit.

89. On December 24, 2018 and every day thereafter, U.S. Steel allowed the emission of SO₂ in exceedance of its permitted emissions limitation at Edgar Thomson Works.

90. On numerous occasions following the December 24, 2018 fire, Edgar Thomson Works exceeded the NAAQS ambient air standard for SO₂.

91. As a result of these violations, U.S. Steel has illegally allowed the exceedance of emissions of both H₂S and SO₂ in violation of the Edgar Thomson Work’s Installation Permit, Article XXI, and the NAAQS.

92. Pursuant to Article XXI, Section 2109.06.a.1, U.S. Steel is liable for injunctive relief and civil penalties of up to \$25,000 per day for each violation occurring on or after December 24, 2018 and attributable to the December 24, 2018 fire.

THIRD CLAIM FOR RELIEF

(SO₂ and H₂S exceedances at Irvin Works)

93. Paragraphs 1 through 92 are re-alleged and incorporated herein by reference.

94. U.S. Steel’s Irvin Installation Permit #0050-I008 (Condition IV.25) imposes a site wide limit for H₂S emissions to no more than 35 grains/100 dscf.

95. U.S. Steel’s Irvin Operating Permit similarly imposes emissions limits with respect to its SO₂ emissions.

96. Notwithstanding the permit limits found in its various permits, the NAAQS limits ambient air concentrations for SO₂ to 75 ppb or below on an hourly basis.

97. As noted *supra*, Section 2102.03.c of the Allegheny County Health Department Rules and Regulations provides as follows:

§2102.03 PERMITS GENERALLY *{Paragraph a.1 & d.2 & Subsections i & j amended, and k & l added September 6, 1995, effective October 20, 1995}*

* * *

c. **Conditions.** It shall be a violation of this Article giving rise to the remedies provided by Part I of this Article for any person to fail to comply with any terms or conditions set forth in any permit issued pursuant to this Part.

98. Likewise, Article XXI, Section 2101.10 specifically incorporates by reference the national ambient air quality standards promulgated by the federal EPA.

99. Section 2101.11 (Prohibition of Air Pollution) states that it “shall be a violation of this Article to fail to comply with ... any requirement of this Article.” Moreover, it proscribes that

no one shall, “through the failure to provide and operate the necessary control equipment or to take the necessary precautions, operate any source of air contaminants in such manner that emissions from such source ... cause an exceedance of the ambient air quality standards established by § 2101.10 of this Article [or] may reasonably be anticipated to endanger the public health, safety or welfare.”

100. On December 24, 2018 and every day thereafter until April 4, 2019, U.S. Steel allowed the emission of H₂S in exceedance of 35 grains/100 dscf in violation of its federally enforceable SIP permit.

101. On December 24, 2018 and every day thereafter, U.S. Steel allowed the emission of SO₂ in exceedance of its permitted emissions limitation at Irvin Works.

102. On numerous occasions following the December 24, 2018 fire, Irvin Works exceeded the NAAQS ambient air standard for SO₂.

103. As a result of these violations, U.S. Steel has illegally allowed the exceedance of emissions of both H₂S and SO₂ in violation of the Irvin Work’s Installation Permit, Article XXI, and the NAAQS.

104. Pursuant to Article XXI, Section 2109.06.a.1, U.S. Steel is liable for injunctive relief and civil penalties of up to \$25,000 per day for each violation occurring on or after December 24, 2018 and attributable to the December 24, 2018 fire.

PRAYER FOR RELIEF

WHEREFORE, based on the allegations contained in paragraphs 1 through 104 above, Plaintiff-Intervenor requests that this Court:

A. Permanently enjoin Defendant from further violating the Act, the Pennsylvania SIP (including the Allegheny County portion of the Pennsylvania SIP), and its various Mon-Valley Title V permits;

B. Order Defendant to take appropriate actions to remedy, mitigate, and offset the harm to public health and the environment caused by violations of the Act, the Allegheny County's portion of the Pennsylvania SIP, and U.S. Steel's various Mon-Valley permits;

C. Assess a civil penalty against Defendant for each violation of the applicable provisions of the Act, the Pennsylvania SIP, and U.S. Steel's Mon-Valley permits of up to \$25,000 per day for each violation occurring on and after December 24, 2018;

D. Award Plaintiff-Intervenors their costs of this action; and

E. Grant such other and further relief as the Court deems just and proper.

Respectfully submitted,

FOR THE ALLEGHENY COUNTY
HEALTH DEPARTMENT

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