

**ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM**

December 6, 2023

SUBJECT: **U.S. Steel –Clairton Plant**
400 State Street
Clairton, PA 15025-1855

Allegheny County

Installation Permit: No. 0052-OP22a

TO: JoAnn Truchan, PE
Program Manager, Engineering

FROM: Hafeez Ajenifuja
Air Quality Engineer

FACILITY DESCRIPTION:

U.S. Steel Mon Valley Works Clairton Plant is the largest by-products coke plant in North America. The Clairton Plant operates seven coke batteries and produces approximately 13,000 tons of coke per day from the destructive distillation (carbonization) of more than 18,000 tons of coal. During the carbonization process, approximately 225 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.

The Clairton Plant is located approximately 20 miles south of Pittsburgh on 392 acres along 3.3 miles of the west bank of the Monongahela River. The Plant was built by St Clair Steel Company in 1901 and bought by U.S. Steel in 1904. The first coke batteries were built in 1918. The coke produced is used in the blast furnace operations in the production of molten iron for steel making.

The Clairton Plant is a major source of CO, NO_x, PM, PM₁₀, PM_{2.5}, SO₂, VOCs, and hazardous air pollutants (HAPs) as defined in Article XXI §2101.20

AMENDMENT DOCUMENTS:

- Title V Operating Permit #0052-OP22, issued November 21, 2022
- Notice of Appeal, United States Steel Corporation, dated December 21, 2022
- Petition Nos. III-2023-5 and III-2023-6, Order Granting In Part and Denying in Part Petitions for Objection to a Title V Operating Permit, U.S. EPA, September 18, 2023
- Letter Reopening for Cause, dated November 1, 2023

AMENDMENT DESCRIPTION:

This permit is for the amendment of the U.S. Steel Mon Valley Works Clairton Plant Title V Operating Permit No. 0052-OP22, issued on November 21, 2022, pursuant to Article XXI, §2103.14.b. The amendment is a result of U.S. Steel's appeal of the issued Title V Operating permit and reopening for cause under §2103.15.a and §2103.25 in response to US EPA response to Petition Nos. III-2023-5 and III-2023-6. This amendment encompasses the following changes:

- 1) Condition IV.33.f: Added. The condition was added as part of compliance demonstration and to satisfy EPA Petition Claim F.
- 2) Condition IV.36: Added. Compliance Plan Requirements.
- 3) Sections V.A & V.B: Removed. The sections were removed because the facility has shut down batteries 1-3 and the PEC system.
- 4) Conditions V.A.1.K, V.C.1.1, V.E.1.k (formerly V.C.1.k; V.E.1.l; V.G.1.k): Revised. The requirement was revised by adding the word “*or fewer*” after the phrase “during any five” and the word “*valid*” after the word “consecutive” based on revision to the Coke Oven Gas Section of Article XXI, §2105.21.a.
- 5) Conditions V.A.1.n & V.A.1.o; V.C.1.q & V.C.1.r; V.E.1.n & V.E.1.e (formerly V.C.1.n, V.C.1.o; V.E.1.q & V.E.1.r; V.G.1.n; V.I.1.e): Revised. The requirements were revised by adding the sentence “*excluding any charging ports obstructed from view*” after the word “battery” based on revision to the Coke Oven Gas Section of Article XXI, §2105.21.c.
- 6) Conditions V.A.1.o; V.C.1.s; V.C.1.t; V.E.1.o; V.G.1.f (formerly V.C.1.o; V.E.1.s; V.E.1.t; V.G.1.o; V.I.1.f): Revised. The requirements were revised by adding the sentence “*excluding any offtake piping obstructed from view*” after the word “battery” based on revision to the Coke Oven Gas Section of Article XXI, §2105.21.d.
- 7) Condition V.A.1.v (formerly V.C.1.v): Revised. The PM₁₀ and PM_{2.5} lbs/hr and tons/yr emission limits were revised to align with the PM limit.
- 8) Conditions V.A.1.v, V.A.1.x, V.A.1.z (formerly V.C.1.v, V.C.1.x, and V.C.1.z.) Removed the emission table's footnote reference to No_x, CO, and VOC include combustion stack, soaking and charging.
- 9) Conditions V.A.2.a; V.C.2.a; V.E.2.a; V.G.2.e (formerly V.C.2.a; V.E.2.a; V.G.2.a; V.I.2.e): Added. Added the sentence “*In lieu of Method 9, the permittee may use COMS data to determine visible emissions during the test*” to indicate that the facility may use COMS data to determine visible emission instead of EPA Method 9.
- 10) Conditions V.A.3.j; V.C.3.j; V.E.3.f; V.G.3.k (formerly V.C.3.j; V.E.3.j; V.G.3.f; V.I.3.k): Added. The conditions were added to require the facility to monitor the volume of fuel combusted as part of compliance demonstration and to satisfy EPA Petition Claims C, D & E.
- 11) Conditions V.A.4.j; V.C.4.j; V.E.4.j (formerly V.C.4.j; V.E.4.j; V.G.4.j): Added. The conditions were added to require the facility to maintain records of the fuel consumed and the calculated VOC emissions as part of compliance demonstration to satisfy EPA Petition Claims C, D & E.
- 12) Conditions V.A.5.a; V.B.5.c; V.C.5.a; V.D.5.c; V.E.5.a (formerly V.C.5.a; V.D.5.c; V.E.5.a; V.F.5.c; V.G.5.a): Added. Added the Enforcement Order No. 161 as part of the citation.
- 13) Conditions V.A.5.b; V.C.5.b; V.E.5.b (formerly V.C.5.b; V.E.5.b; V.G.5.b): Added. The conditions were added to require the facility to report the volume of fuel combusted and the calculated daily and

monthly VOC emissions as part of compliance demonstration and to satisfy EPA Petition Claims C, D & E

- 14) Conditions V.A.5.g; V.C.5.g (formerly V.C.5.g; V.E.5.g): Removed. The opacity quarterly report conditions were removed because the facility has COMS installed on the batteries.
- 15) Conditions V.A.6.c; V.C.6.c; V.E.6.c (formerly V.C.6.c; V.E.6.c; V.G.6.n): Added. The conditions were added to require the facility to calculate the VOC emissions as part of compliance demonstration and to satisfy EPA Petition Claim D.
- 16) Conditions V.A.6.o; V.C.6.o; V.E.6.o (formerly V.C.6.o; V.E.6.o; V.G.6.o): Added. The conditions were added to require the facility to install, operate, and maintain NO_x and CO CEMS as part of compliance demonstration and to satisfy EPA Petition Claims C and E.
- 17) Conditions V.B.2.c; V.D.2.c; V.F.2.c (formerly V.D.2.c; V.F.2.c; V.H.2.c): Removed and Replaced. The requirements were revised by deleting Section 109 from the sentence and replacing it with Section 13 because the manual was revised.
- 18) Condition V.C.1.bb (formerly V.E.1.bb): Revised. Deleted the zero after the PM₁₀ of 25.20 lb/hr to align it with the PM and PM_{2.5}.
- 19) Condition V.E.1.m (formerly V.G.1.m): Added and Removed. The requirement was revised by adding the citation §2105.21.b.8.B and removing the reference to Chapter 18, Section C of the Department's source testing manual because the manual was revised.
- 20) Condition V.E.2.f (formerly V.G.2.f): Added. The condition was added to specify that the facility shall use NO_x CEMS to determine compliance with NO_x emissions, given that the B battery already has existing NO_x CEMS.
- 21) Condition V.E.6.o (formerly V.G.6.o): Added. The condition was added to require the facility to install, operate, and maintain CO CEMS as part of compliance demonstration with CO limit and to satisfy EPA Petition Claim C.
- 22) Condition V.F.1.a.1 (formerly V.H.1.a.1): Added and Removed. Added the consent order date as part of the citation and removed the reference to the agreement because it is not part of the citations.
- 23) Conditions V.G.2.f & V.H.2.f (formerly V.I.2.f & V.J.2.f): Added. The conditions were added to incorporate SO₂ testing requirements from SO₂ SIP IP #0052-I017.
- 24) Condition V.G.2.j (formerly V.I.2.j): Added. The condition was added to specify that the facility shall use NO_x CEMS to determine compliance with NO_x emissions, given that the C battery already has existing NO_x CEMS.
- 25) Condition (formerly V.I.2.K): Revised. The requirement was revised to include benzene, naphthalene, and HCl pollutants in the biennial testing for demonstrating compliance with the limits as part of the compliance demonstration with the limits and to satisfy EPA Petition Claim B.
- 26) Condition V.G.4.n (formerly V.I.4.n): Added. The condition was added to require the facility to maintain records of the type and volume of fuel consumed and the calculated daily benzene, naphthalene, and HCl emissions as part of the compliance demonstration with the limits and to satisfy EPA Petition Claim B.
- 27) Condition V.G.6.o (formerly V.I.6.o): Added. The condition was added to require the facility to calculate the daily, monthly, and 12-month rolling total of Benzene, HCl, and Naphthalene emissions as part of the compliance demonstration with the limits and to satisfy EPA Petition Claim B.
- 28) Conditions V.G.6.p (formerly V.I.6.p): Added. The condition was added to require the facility to install, operate, and maintain CO, SO_x, and VOC CEMS as part of the compliance demonstration with the limits and to satisfy EPA Petition Claims B, C & F.

- 29) Conditions V.H.1.g & V.H.1.h (formerly V.J.1.g & V.J.1.h): Removed: Removed the coke oven gas citation of §2105.21.h because it does not apply to the quench tower and SO_x limit.
- 30) Section V.I (formerly V.K): Removed. All the references to quench tower 1 (P013) were removed because the quench tower has been shut down.
- 31) Conditions V.I.3.d; V.J.3.c; V.K.3.c; V.L.3.d & V.M.3.c (formerly V.K.3.d; V.L.3.c; V.M.3.c; V.N.3.d & V.O.3.c): Added. The conditions were added to require the facility to monitor the amount of coke quenched as part of the compliance demonstration to satisfy EPA Petition Claim G.
- 32) Conditions V.I.4.f; V.J.4.b; V.K.4.b; V.L.4.e; V.M.4.b (formerly V.K.4.f; V.L.4.b; V.M.4.b; V.N.4.e & V.O.4.b): Added. The conditions were added to require the facility to keep records of the coke quenched and the emissions calculated.
- 33) Conditions V.I.5.e; V.J.5.f; V.K.5.f; V.L.5.d & V.M.5.f (formerly V.K.5.e; V.L.5.f; V.M.5.f; V.N.5.d & V.O.5.f): Added. The conditions were added to require the facility to report the amount of coke quenched and the emissions calculated as part of the compliance demonstration to satisfy EPA Petition Claim G.
- 34) Conditions V.I.6.d; V.J.6.f; V.K.6.f; V.M.6.e (formerly V.K.6.d; V.L.6.f; V.M.6.f; V.O.6.e): Added. The conditions were added to require the facility to calculate the PM, CO, and VOC emissions as part of the compliance demonstration to satisfy EPA Petition Claim G.
- 35) Conditions V.J.1.i & V.K.1.i (formerly V.L.1.i & V.M.1.i): Removed. The NO_x limit was deleted because it is not part of the quench towers No. 5A & No. 7A, IP #0052-I014a.
- 36) Condition V.L.1.d & V.L.1.e (formerly V.N.1.d & V.N.1.e): Added. The conditions were added to restrict the operation of quench towers No. 5 & No. 7 because they serve as backup quench towers.
- 37) Section V.L, Tables V-N-1 & V-N-2 (formerly section V.N, Tables V-N-1 & V-N-2): Deleted. The emission tables were deleted because the quench towers are used as backups when the primary quench towers are undergoing maintenance.
- 38) Condition V.L.2.e (formerly V.N.2.e): Deleted. The condition was removed because the quench towers are used as backups.
- 39) Condition V.M.6.e (formerly V.O.6.e): Added. The condition was added to require the facility to calculate the PM, SO_x, TRS, cyanide compounds, and VOC emissions as part of the compliance demonstration to satisfy EPA Petition Claim G.
- 40) Condition V.N.2.a (formerly V.P.2.a): Revised. The requirement was revised to replace the references to chapters 15 & 16 with chapter 11 because the source testing manual was revised.
- 41) Condition V.O.3 (formerly V.Q.3): Revised. The requirement was revised by reducing the TDS monitoring frequency from daily to monthly to align with U.S. Steels's other plants.
- 42) Condition V.O.6.a (formerly V.Q.6.a): Revised. The requirement was revised by the reducing the cooling tower inspection from quarterly to annually to align with U.S. Steels's other plants.
- 43) Condition V.O.6.c (formerly V.Q.6.c): Added. The condition was added to require the facility to provide the Department with notice before revising the cooling tower workpractice requirement.
- 44) Condition V.II.5a (formerly V.KK.5.a): Added. The condition was added to require the facility to submit semiannual report according to the general condition V.III.15.
- 45) Conditions V.EE.3.c; V.FF.3.c (formerly V.GG.3.c & V.HH.3.c): Added. The conditions were added to require the facility to monitor the oxygen content, of boilers No. 1 & No. 2 exhaust on a monthly basis during operation to within 3% of the measured value to ensure proper operation and as part of the compliance demonstration and to satisfy EPA Petition Claims C, D, E.

- 46) Conditions V.EE.4.c & V.FF.4.c) (formerly V.GG.4.c & V.HH.4.c): Added. The conditions were added to require the facility to keep records of the cold start, operating hours, and operation and maintenance activities.
- 47) Conditions V.EE.4.d & V.FF.4.d (formerly V.GG.4.d & V.HH.4.d): Added. The conditions were added to require the facility to maintain records of the calculated VOC emission and as part of the compliance demonstration to satisfy EPA Petition Claim D.
- 48) Conditions V.EE.4.e; V.FF.6.e; VGG.4.c & V.HH.4.c (formerly V.GG.4.e; V.HH.4.e; V.II.4.c & V.JJ.4.c): Added. Tune-up requirements were added to comply with the recordkeeping requirements of NESHAP Subpart DDDDD.
- 49) Conditions V.EE.5.d & V.FF.5.d (formerly V.GG.5.d & V.HH.5.d): Added. The conditions were added to require the facility to report the calculated VOC emissions and as part of the compliance demonstration to satisfy EPA Petition Claim D.
- 50) Conditions V.EE.5.e; V.FF.5.e; V.GG.5.b & V.HH.5.b (formerly V.GG.5.e, V.HH.5.e, V.II.5.b & V.JJ.5.b): Added. The conditions were added to require the facility to comply with the tune-up reporting requirements of NESHAP Subpart DDDDD.
- 51) Conditions V.EE.6.a & V.FF.6.a (formerly V.GG.6.a & V.HH.6.a): Added. The conditions were added to require the facility to calculate the daily, monthly, and 12-month rolling totals of VOC emissions as part of the compliance demonstration to satisfy EPA Petition Claim D.
- 52) Conditions V.EE.6.b & V.FF.6.b (formerly V.GG.6.b & V.HH.6.b): Added. The conditions were incorporated to require the facility to install PM, SO_x, and CO CEMS as part of the compliance demonstration to satisfy EPA Petition Claims A, C & F.
- 53) Conditions V.EE.6.c & d; V.FF.6.c & d; V.GG.6.c & d; V.HH.6.c & d (formerly V.GG.6.c & d; V.HH.6.c & d; V.II.6.c & d and V.JJ.6.c & d): Added. The conditions were added to require the facility to comply with the tune-up requirements of NESHAP Subpart DDDDD.
- 54) Conditions V.EE.7; V.FF.7; V.GG.7; V.HH.7 (formerly V.GG.7; V.HH.7; V.II.7; V.JJ.7): Deleted. The condition was deleted because the applicable requirements of NESHAP Subpart DDDDD have been incorporated under workpractice, recordkeeping, and reporting.
- 55) Conditions V.GG.3.b & c; V.HH.3.b & v (formerly V.II.3.b & c; V.JJ.3.b & c): Added. The monitoring conditions were added to ensure the proper operation of the boilers as part of the compliance demonstration and to satisfy EPA Petition Claims A, C, D & E.
- 56) Conditions V.GG.4.a-6 & V.HH.4.a.4-6 (formerly V.II.4.a.4-6 & V.JJ.4.a.4-6): Added. The conditions were added to strengthen the recordkeeping requirements.
- 57) Conditions V.GG.4.b & V.HH.4.b (formerly V.II.4.b & V.JJ.4.b): Added. The conditions were added to require the facility to maintain the calculated PM, SO_x, NO_x, CO, and VOC emissions, including emission factors to demonstrate compliance with emissions limits. The boilers are operated during emergency situation when boilers 1 & 2 are inactive for maintenance. The combination of monitoring, recordkeeping requirements and the daily and monthly calculation of emissions, along with the annual tune-up as required under workpractice section.
- 58) Conditions V.GG.5.b & V.HH.5.b (formerly V.II.5.b & V.JJ.5.b): Added. The conditions were added to require the facility to report the calculated emissions required under the work practice section as part of the compliance demonstration and to satisfy EPA Petition Claims A, C, D, E.
- 59) Conditions V.GG.6.a & V.HH.6.a (formerly V.II.6.a & V.JJ.6.a): Added. The conditions were added to require the facility to calculate the daily, monthly, and 12-month rolling totals of PM, SO_x, NO_x, CO, and VOC as part of compliance demonstration and to satisfy EPA Petition Claims A, C, D & E.

- 60) Condition V.MM.1.b (formerly V.OO.1.b): Removed. The condition was removed because the moisture content requirement is applicable to coke pile.
- 61) Section V.III, Emission limitation Summary: Revised. The emission summary table was revised based on deleted sections, processes, and emissions limits.

BASIS FOR MONITORING REQUIREMENTS:

In reviewing the monitoring requirements, ACHD evaluated the petitioners’ requests using the five factors outlined in the 2007 US EPA response to petition for CITGO Refining and Chemicals (Petition No. VI-2007-01) combined with the overall benefit to the public health in Allegheny County. The five-factor analysis used to review monitoring includes:

- 1) Variability of emissions;
- 2) Likelihood of violation;
- 3) Presence of add-on controls;
- 4) Type of monitoring, process, maintenance, or control equipment data available; and
- 5) Type and frequency of monitoring requirements for similar emission units at other facilities.

Five-Factor Monitoring Analysis

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
P007 Control Device			Coke Battery No. 13 PEC Baghouse	Claim C, D, E, F
PM	36.50	No	<p>There is no variability in the process emissions.</p> <p>The PM emissions is based on Article XXI standard, §2105.21.f.2 for coke oven combustion stack and the stack exhaust flow rate, and the likelihood of violating the limit is very low. In addition, the emission inventory for the past three years is significantly lower than the limit.</p> <p>Biennial stack testing is required to demonstrate compliance with the limit.</p> <p>The coke oven battery has a PEC baghouse to control the PM emission during pushing activities.</p> <p>The battery has COMS to measure and record the opacity of emissions exiting the stack. The facility is required to:</p> <ul style="list-style-type: none"> ▪ Monitor at all times the opacity of emissions exiting the coke oven battery stack using a COMS ▪ Inspect the collector main for leaks daily ▪ Keep records of the monitoring data for COMS ▪ Report the monthly COMs exceedances ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
NO _x	236	Yes	<p>There are no other coke batteries in Allegheny County.</p> <p>There is no variability in the emissions. The NO_x emission is based on stack testing, AP-42, and fuel combusted.</p> <p>The likelihood of violating the limit is significantly low, and the emission inventory for the past three years is significantly lower than the potential limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the NO_x limit. ▪ Report total coke oven gas produced ▪ Record and report the type and amount of fuel combusted ▪ Install and operate NO_x CEMS to continuously measure the NO_x emission. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of NO_x.</p> <p>There are no other coke batteries in Allegheny County.</p>	
SO _x	61.03 (SIP Req.)	Yes	<p>There is no variability in the process emissions.</p> <p>The SO_x emission is based on SIP IP #0052-I017, issued on September 14, 2017.</p> <p>The likelihood of violating the limit is low and the emission inventory for the past three years is lower than the potential limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the SO_x limit. ▪ Continuously monitor (every 15 min.) the COG H₂S concentration. ▪ Determine the emissions of SO₂ by converting the H₂S grain loading of the fuel burned and the fuel flow rate to pounds per hour. ▪ Keep records and report hourly fuel use (COG and natural gas) and hourly H₂S concentration in grains per 100 dscf ▪ Install and operate SO_x CEMS to continuously measure the SO_x emission. <p>There are no other coke batteries in Allegheny County.</p>	
CO	168	Yes	<p>There is no variability in the process emissions.</p> <p>The CO emission is based on stack testing, AP-42, and fuel consumption.</p> <p>The likelihood of violating the limit is significantly low because the last three years of emission inventory</p>	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>indicates CO emission is significantly lower than the limits.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Keep records and report the daily and monthly fuel combusted. ▪ Install and operate CO CEMS to continuously measure the CO emission. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of CO.</p> <p>There are no other coke batteries in Allegheny County.</p>	
VOC	7.86	No	<p>There is no variability in the process emissions.</p> <p>The VOC emission is based on stack test, coke oven gas consumed. The likelihood of violating the limit is significantly low.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the VOC limit. ▪ Monitor and record the daily monthly, and 12-month rolling totals of the amount of fuel combusted. ▪ Calculate the daily, monthly, and 12-month rolling totals of VOC emissions using the fuel consumed and emission factor from the most recent stack testing to demonstrate compliance with the limit. ▪ Report the daily, monthly, and 12-month rolling total of the calculated emissions. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke oven batteries in Allegheny County.</p>	
<p>P008 Control Device</p>	<p>Coke Battery No. 14 PEC Baghouse (same as P007)</p>			<p>Claim C, D, E, F</p>
PM	36.50	No	<p>There is no variability in the process emissions.</p> <p>The PM emissions is based on Article XXI standard, §2105.21.f.2 for coke oven combustion stack and the stack exhaust flow rate, and the likelihood of violating the limit is very low. In addition, the emission inventory for the past three years is significantly lower than the limit.</p>	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>The coke oven battery has PEC baghouse to control the PM emission during pushing activities</p> <p>The battery has COMS to measure and record the opacity of emissions exiting each stack.</p> <p>And the facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the limit. ▪ Monitor at all times the opacity of emissions exiting the coke oven battery stack using COMS ▪ Inspect the collector main for leaks daily ▪ Keep records of the Monitoring data for COMS ▪ Report the monthly COMs exceedances ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke batteries in Allegheny County.</p>	
NO _x	206	Yes	<p>There is no variability in the emissions. The NO_x emission is based on stack testing, AP-42, and fuel combusted.</p> <p>The likelihood of violating the limit is significantly low, and the emission inventory for the past three years is significantly lower than the potential limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial Stack testing to demonstrate compliance with the NO_x limit. ▪ Report total coke oven gas produced ▪ Record and report the type and amount of fuel combusted ▪ Install and operate NO_x CEMS to continuously measure the NO_x emission. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of NO_x.</p> <p>The facility is required to record and report the amount of fuel combusted.</p> <p>There are no other coke batteries in Allegheny County.</p>	
SO _x	61.45 (SIP Req.)	Yes	<p>There is no variability in the process emissions.</p> <p>The SO_x emission is based on SIP IP #0052-I017,</p>	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>issued on September 14, 2017.</p> <p>The likelihood of violating the limit is low the emission inventory for the past three years is lower than the potential limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the SO_x limit. ▪ Continuously monitor (every 15 min.) the COG H₂S concentration. ▪ Determine the emissions of SO₂ by converting the H₂S grain loading of the fuel burned and the fuel flow rate to pounds per hour. ▪ Keep records and report the hourly fuel use (COG and natural gas) and hourly H₂S concentration in grains per 100 dscf ▪ Install and operate SO_x CEMS to continuously measure the SO_x emission. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke batteries in Allegheny County.</p>	
CO	198	Yes	<p>There is no variability in the process emissions.</p> <p>The CO emission is based on stack testing, AP-42, and fuel consumption.</p> <p>The likelihood of violating the limit is significantly low because the last three years of emission inventory indicates CO emissions are significantly lower than the limits.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the CO limit. ▪ Keep records and report the daily and monthly fuel combusted. ▪ Install and operate CO CEMS to continuously measure the CO emission. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of CO.</p> <p>There are no other coke batteries in Allegheny County.</p>	
VOC	7.86	No	<p>There is no variability in the process emissions.</p> <p>The VOC emission is based on stack testing, coke oven gas consumed, and fuel heating value, and the likelihood of violating the limit is significantly low.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the VOC limit. ▪ Monitor and record the daily, monthly, and 12-month rolling totals of the amount of fuel combusted. ▪ Calculate the daily, monthly, and 12-month rolling totals of VOC emissions using the fuel consumed and emission factor from the most recent stack testing to demonstrate compliance with the limit. ▪ Report the daily, monthly, and 12-month rolling total of the calculated emissions. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke batteries in Allegheny County.</p>	
P010 & P011 Control Device	Coke Batteries No. 19 & No. 20 PEC Baghouse			Claim C, D, E, F
PM	110.2 each	No	<p>There is no variability in the process emissions.</p> <p>The PM emissions is based on Article XXI standard, §2105.21.f.4 for coke oven combustion stack and the stack exhaust flow rate, and the likelihood of violating the limit is very low. In addition, the emission inventory for the past three years is significantly lower than the limit.</p> <p>The coke oven battery has PEC baghouse to control the PM emission during pushing activities</p> <p>The battery has COMS to measure and record the opacity of emissions exiting each stack. And the facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the limit. ▪ Monitor at all times the opacity of emissions exiting each coke oven battery stack using a 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>COMS</p> <ul style="list-style-type: none"> ▪ Inspect the collector main for leaks daily ▪ Keep records of the monitoring data for COMS ▪ Report the monthly COMs exceedances ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke batteries in Allegheny County.</p>	
NO _x	1195.62 each	Yes	<p>There is no variability in the emissions. The NO_x emission is based on stack testing, AP-42, and fuel combusted and coke oven gas heating value.</p> <p>The likelihood of violating the limit is significantly low, and the emission inventory for the past three years is significantly lower than the potential limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the NO_x limit. ▪ Report the total coke oven gas produced ▪ Record and report the type and amount of fuel combusted ▪ Install and operate NO_x CEMS to continuously measure the NO_x emission. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of NO_x.</p> <p>The facility is required to record and report the amount of fuel combusted.</p> <p>There are no other coke batteries in Allegheny County</p>	
SO _x	128.64 (SIP Req.)	Yes	<p>There is no variability in the process emissions.</p> <p>The SO_x emission is based on SIP IP #0052-I017, issued on September 14, 2017.</p> <p>The likelihood of violating the limit is low the emission inventory for the past three years is lower than the potential limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the SO_x limit. ▪ Continuously monitor (every 15 min.) the COG 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>H₂S concentration.</p> <ul style="list-style-type: none"> ▪ Determine the emissions of SO₂ by converting the H₂S grain loading of the fuel burned and the fuel flow rate to pounds per hour. ▪ Keep records and report hourly fuel use (COG and natural gas) and hourly H₂S concentration in grains per 100 dscf ▪ Install and operate SO_x CEMS to continuously measure the NO_x emission. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke batteries in Allegheny County</p>	
CO	595.12	Yes	<p>There is no variability in the process emissions.</p> <p>The CO emission is based on stack testing, AP-42, and fuel consumption.</p> <p>The likelihood of violating the limit is significantly low because the last three years of emission inventory indicates CO emission is significantly lower than the limits.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the CO limit. ▪ Keep records and report the daily and monthly fuel combusted. ▪ Install and operate CO CEMS ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of CO.</p> <p>There are no other coke batteries in Allegheny County.</p>	
VOC	16.76	No	<p>There is no variability in the process emissions.</p> <p>The VOC emission is based on stack testing, coke oven gas consumed, and fuel heating value, and the likelihood of violating the limit is low.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the VOC limit. ▪ Monitor and record the daily, monthly, and 12- 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>month rolling totals of the amount of fuel combusted.</p> <ul style="list-style-type: none"> ▪ Calculate the daily, monthly, and 12-month rolling totals of VOC emissions using the fuel consumed and emission factor from the most recent stack testing to demonstrate compliance with the limit. ▪ Report the daily, monthly, and 12-month rolling total of the calculated emissions. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke oven batteries in Allegheny County.</p>	
P012 Control Device	Coke Battery B PEC Baghouse			Claim C, D, E, F
PM	54.33	No	<p>There is no variability in the process emissions.</p> <p>The PM emissions is based on Article XXI standard, §2105.21.f.2 for coke oven combustion stack and the stack exhaust flow rate, and the likelihood of violating the limit is very low. In addition, the emission inventory for the past three years is significantly lower than the limit.</p> <p>The coke oven battery is equipped with PEC baghouse to control the PM emission during pushing activities</p> <p>The battery has COMS to measure and record the opacity of emissions exiting the stack. And the facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the limit. ▪ Monitor at all times the opacity of emissions exiting each coke oven battery stack using a COMS ▪ Inspect the collector main for leaks daily ▪ Keep records of the monitoring data for COMS ▪ Report the monthly COMs exceedances ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke batteries in Allegheny County.</p>	
NO _x	768.94	Yes, Existing	<p>There is no variability in the emissions. The NO_x emission is based on stack testing, AP-42, and fuel combusted.</p>	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>The likelihood of violating the limit is significantly low, and the emission inventory for the past three years is significantly lower than the potential limit.</p> <p>The battery is equipped with NO_x CEM to continuously measure the NO_x emission.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Operate the existing NO_x CEMS to continuously measure the NO_x emission. ▪ Report total coke oven gas produced ▪ Record and report the type and amount of fuel combusted ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of NO_x.</p> <p>There are no other coke batteries in Allegheny County</p>	
SO _x	93.64 (SIP Req.)	Yes	<p>There is no variability in the process emissions.</p> <p>The SO_x emission is based on SIP IP #0052-I017, issued on September 14, 2017.</p> <p>The likelihood of violating the limit is low the emission inventory for the past three years is lower than the potential limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the SO_x limit. ▪ Continuously monitor (every 15 min.) the COG H₂S concentration. ▪ Determine the emissions of SO₂ by converting the H₂S grain loading of the fuel burned and the fuel flow rate to pounds per hour. ▪ Keep records and report hourly fuel use (COG and natural gas) and hourly H₂S concentration in grains per 100 dscf ▪ Install and operate SO_x CEMS to continuously measure the SO_x emission. <p>There are no other coke batteries in Allegheny County</p>	
CO	961.47	Yes	<p>There is no variability in the process emissions.</p> <p>The CO emission is based on stack testing, AP-42, and fuel consumption.</p> <p>The likelihood of violating the limit is significantly</p>	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>low because the last three years of emission inventory indicates CO emission is significantly lower than the limits.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the CO limit. ▪ Keep records and report the daily and monthly fuel combusted. ▪ Install and operate CO CEMS to continuously measure the CO emission. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of CO.</p> <p>There are no other coke batteries in Allegheny County.</p>	
VOC	16.76	No	<p>There is no variability in the process emissions.</p> <p>The VOC emission is based on stack testing, coke oven gas consumed, and fuel heating value, and the likelihood of violating the limit is low.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the VOC limit. ▪ Monitor and record the daily, monthly, and 12-month rolling totals of the amount of fuel combusted. ▪ Calculate the daily, monthly, and 12-month rolling totals of VOC emissions using the fuel consumed and emission factor from the most recent stack testing to demonstrate compliance with the limit. ▪ Report the daily, monthly, and 12-month rolling total of the calculated emissions. <p>There are no other coke oven batteries in Allegheny County.</p>	
P046 Control Device	Coke Battery C PEC Baghouse			Claim B, D, E, F, K
PM	77	No	<p>There is no variability in the process emissions.</p> <p>The PM emissions is based on Article XXI standard, §2105.21.f for coke oven combustion stack and the stack exhaust flow rate, and the likelihood of violating the limit is very low. In addition, the emission inventory for the past three years is significantly lower than the limit.</p> <p>The coke oven battery has PEC baghouse to control the</p>	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>PM emission during pushing activities</p> <p>The battery has COMS to measure and record the opacity of emissions exiting each stack. And the facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the limit. ▪ Monitor at all times the opacity of emissions exiting each coke oven battery stack using a COMS ▪ Inspect the collector main for leaks daily ▪ Keep records of the monitoring data for COMS ▪ Report the monthly COMs exceedances ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke batteries in Allegheny County.</p>	
NO _x	609.80	Yes, Existing	<p>There is no variability in the emissions. The NO_x emission is based on stack testing, AP-42, and fuel combusted.</p> <p>The likelihood of violating the limit is significantly low, and the emission inventory for the past three years is significantly lower than the potential limit.</p> <p>The battery is equipped with NO_x CEM to continuously measure the NO_x emission.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Operate the existing NO_x CEMS to continuously measure the NO_x emission. ▪ Report total coke oven gas produced ▪ Record and report the type and amount of fuel combusted ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of NO_x.</p> <p>There are no other coke batteries in Allegheny County</p>	
SO _x	140.29 (SIP Req.)	Yes	<p>There is no variability in the process emissions.</p> <p>The SO_x emission is based on SIP IP #0052-I017, issued on September 14, 2017.</p>	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>The likelihood of violating the limit is low because the emission inventory for the past three years is lower than the potential limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the SO_x limit. ▪ Continuously monitor (every 15 min.) the COG H₂S concentration. ▪ Determine the emissions of SO₂ by converting the H₂S grain loading of the fuel burned and the fuel flow rate to pounds per hour. ▪ Keep records and report hourly fuel use (COG and natural gas) and hourly H₂S concentration in grains per 100 dscf ▪ Install and operate SO_x CEMS to continuously measure the SO_x emission. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other coke batteries in Allegheny County</p>	
CO	438.98	Yes	<p>There is no variability in the process emissions.</p> <p>The CO emission is based on stack testing, AP-42, and fuel consumption.</p> <p>The likelihood of violating the limit is significantly low because the last three years of emission inventory indicates CO emission is significantly lower than the limits.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the CO limit. ▪ Keep records and report the daily and monthly fuel combusted. ▪ Install and operate CO CEMS to to continuously measure the CO emission. ▪ Comply with the emission limitations, work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>The content of criteria pollutants in the exhaust gas is consistent, so monitoring of fuel use can be used as parametric continuous monitoring of CO.</p> <p>There are no other coke batteries in Allegheny County.</p>	
VOC	54	Yes	There is no variability in the process emissions.	
Benzene, HCl,	4.3, 22.0,	No		

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
TRS & Naphthalene	8.80 & 0.50		<p>The VOC & HAPs emissions based on stack testing, coke oven gas consumed and fuel heating value, and the likelihood of violating the limit is low.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the limits. ▪ Monitor and record the daily, monthly, and 12-month rolling totals of the amount of fuel combusted. ▪ Install and operate VOC CEMS to continuously measure the VOC emission. ▪ Calculate the daily, monthly, and 12-month rolling totals of Benzene, HCl, TRS & Naphthalene emissions using the fuel consumed and emission factor from the most recent stack testing to demonstrate compliance with the limit. ▪ Report the daily, monthly, and 12-month rolling total of the calculated emissions. <p>There are no other coke oven batteries in Allegheny County.</p>	
B001 & B002 Control Device	Steam Boilers No. 1 & No. 2		None	Claim A, D, E
PM	66.58	Yes	<p>There is no variability in the process emissions.</p> <p>The PM emissions is based on Article XXI standard, §2104.02.a.4 & 5 and the boiler heat capacity.</p> <p>The SO_x limit is based on SIP IP #0052-I017, issued on September 14, 2017.</p> <p>The NO_x limit is based on RACT II Limit, issued on April 24, 2020.</p> <p>The likelihood of violating the limits is very low. In addition, the emission inventory for the past three years is significantly lower than the limit.</p> <p>The boilers No. 1 & No. 2 are equipped with NO_x CEM to continuously measure the NO_x emission.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Maintain and operate the NO_x CEM for the boilers and record the output of each system ▪ Install CO, PM, and SO_x CEM to continuously measure the emissions. 	
NO _x	1,598	Yes, existing	<ul style="list-style-type: none"> ▪ Continuously monitor (every 15 min.) the COG H₂S concentration. ▪ Determine the emissions of SO₂ by converting 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
SO _x	518.77 (SIP Req. for all six boilers)	Yes	<p>the H₂S grain loading of the fuel burned and the fuel flow rate to pounds per hour.</p> <ul style="list-style-type: none"> ▪ Perform biennial stack testing to demonstrate compliance with the PM, CO, and SO_x limits ▪ Monitor the oxygen content of the exhaust on a monthly basis during operation ▪ Calculate the daily, monthly, and 12-month rolling totals of VOC emissions using the fuel consumed and emission factor from the most recent stack testing to demonstrate compliance with the limit. ▪ Record the monthly amount and type of fuel used ▪ Perform annual tune-up ▪ Operate and maintain the boilers according to good engineering and air pollution control practices <p>Boilers at other facilities in Allegheny County operate similarly. However, there are no boilers in the county that combust coke oven gas. Other boilers in the county typically record fuel use as parametric monitoring for criteria pollutants as most do not have CEMs.</p>	
CO	262.19	Yes		
VOC	0.69	No		
B005, B006, B007 & B008 Control Device	Steam Boilers R1, R2, T1 & T2			Claim A, C, D, E
PM, NO _x , SO _x , CO & VOC		No	<p>There is no variability in the process emissions.</p> <p>The boilers only operate during emergencies when boilers 1 & 2 are down for maintenance or repair. In addition, boiler R1 has not operated in the last two years.</p> <p>The PM emissions is based on Article XXI standard, §2104.02.a.4 and the boiler's heat capacity.</p> <p>The SO_x limit is based on SIP IP #0052-I017, issued on September 14, 2017.</p> <p>The NO_x limit is based on RACT II Limit, issued on April 24, 2020.</p>	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>The likelihood of violating the limits is very low. In addition, the emission inventory for the past three years is significantly lower than the limit.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Continuously measure the sulfur concentration of coke oven gas ▪ Measure the H₂S content of the blast furnace gas combusted ▪ Perform biennial stack testing to demonstrate compliance with the PM, NO_x, SO_x, and CO limits ▪ Monitor the oxygen content, NO_x and CO of the exhaust on a monthly basis during operation ▪ Monitor and inspect the boilers weekly to ensure the physical integrity of the boilers and associated equipment. ▪ Calculate the daily, monthly, and 12-month rolling totals of PM NO_x, SO_x, CO, and VOC emissions using the fuel consumed and emission factor from the most recent stack testing to demonstrate compliance with the limit. ▪ Record and report the monthly amount and type of fuel used ▪ Perform annual tune-up ▪ Operate and maintain the boilers according to good engineering and air pollution control practices <p>Boilers at other facilities in Allegheny County operate similarly. However, there are no boilers in the county that combust coke oven gas and blast furnace gas. Other boilers in the county typically record fuel use as parametric monitoring for criteria pollutants as most do not have CEMs.</p>	
B010	Ammonia Flare			Claim J
NO _x , SO _x , CO, VOC & Ammonia		No	<p>There is no variability in the process emissions.</p> <p>The emission limits are based on IP #0052-I002, issued on January 16, 1998 (amended, January 20, 2005), and the likelihood of violating the limit is very low. The flare is rarely used and limited to 2,920 hours of operation per year.</p> <p>The facility is required to:</p> <ul style="list-style-type: none"> ▪ Operate for a total of 2,920 hours per year. ▪ Perform stack testing once every five years to demonstrate compliance with the limits. ▪ Continuously monitor and record the temperature of the flare with a tolerance of ±10 °F when the equipment is in operation. 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<ul style="list-style-type: none"> ▪ Operate and maintain the enclosed flare at a temperature of 1,570 °For higher with a minimum residence time of 0.50 seconds at all times. ▪ Maintain and operate the flare at a minimum destruction efficiency of 98% ▪ Monitor and record the operating hours. ▪ Record and report the monthly fuel usage. ▪ Maintain and operate the flare according to a flare minimization plan by minimizing all flaring except during emergencies. ▪ Operate and maintain the ammonia flare according to good engineering and air pollution control practices by performing regular maintenance. <p>Other flares in Allegheny County typically demonstrate compliance by monitoring the temperature or destruction efficiency.</p>	
P017	Quench Tower B			Claim G
Control Device	Baffles			
PM, SO _x , CO, VOC		No	<p>There is no variability in the process emissions.</p> <p>The VOC and TSP emissions are based on stack testing in lb/ton and amount of coke quenched. The likelihood of violating the limits is very low.</p> <p>The SO_x limit is based on SIP IP #0052-I017, issued on September 14, 2017.</p> <p>The quench tower is equipped with baffles to capture entrained water droplets</p> <p>The permittee is required to:</p> <ul style="list-style-type: none"> ▪ Monitor the concentration of total dissolved solids (TDS) in the quenching water, and to not exceed 1,100 milligrams per liter (mg/L); ▪ Conduct performance test to demonstrate compliance with the TDS limit or constituent limit for quench water ▪ Perform stack testing once every two years for PM, SO_x, CO, and VOC to demonstrate compliance with the limits. ▪ Inspect the quench tower monthly for damaged or missing baffles and blockages and initiate repair or replacement of damaged or missing baffles within 30 days and complete as soon as practicable ▪ Demonstrate continuous compliance with the TDS limit in the water quenching water. ▪ Monitor the daily, monthly, and 12-month rolling totals of the amount of coke quenched ▪ Maintain records of all quench tower inspections when missing or damaged baffles or blockages are discovered 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<ul style="list-style-type: none"> ▪ Maintain baffles in the quench tower such that no more than 5 percent of the cross-sectional area of the tower is uncovered or open to the sky ▪ Maintain records that document conformance with the washing, inspection, and repair including records of the ambient temperature on any day that the baffles were not washed ▪ Maintain records of the source of make-up water to document conformance with the requirement for acceptable make-up water ▪ Maintain the daily, monthly, and 12-month rolling total of coke quenched. ▪ Maintain the daily, monthly, and 12-month rolling total of calculated emissions ▪ Report the monthly and 12-month rolling total of coke quenched and the calculated emissions ▪ Submit semiannual compliance reports for the quench towers ▪ Calculate the emissions of PM, CO, and VOC using the amount of coke quenched and the emission factors generated during the most recent stack testing to demonstrate compliance with the emission limits. ▪ Comply with the quench tower work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other quench towers in Allegheny County.</p>	
<p>P046, P051 & P052</p> <p>Control Device</p>			<p align="center">Quench Towers 5A, 7A & C Battery Quench Towers</p> <p align="center">Baffles</p>	<p align="center">Claim G</p>
<p>PM, SO_x, CO, VOC</p>		<p align="center">No</p>	<p>There is no variability in the process emissions.</p> <p>Quench Towers No. 5A & No. 7A emissions are based on IP #0052-I014a issued on March 11, 2011 (amended, May 24, 2011)</p> <p>C Battery quench tower emissions are based on IP #0052-I011, issued on July 24, 2008 (amended, March 26, 2018). The likelihood of violating the limits is very low.</p> <p>The quench tower is equipped with baffles to capture entrained water droplets</p> <p>The permittee is required to:</p> <ul style="list-style-type: none"> ▪ Monitor the concentration of total dissolved solids (TDS) in the quenching water and to not exceed 1,100 milligrams per liter (mg/L); ▪ Conduct performance test to demonstrate compliance with the TDS limit or constituent limit 	

Process/Pollutant	Potential Limit	Require CEM	Monitoring Analysis	Petition Claim
			<p>for quench water</p> <ul style="list-style-type: none"> ▪ Perform stack testing once every two years for PM, SO_x, CO, and VOC to demonstrate compliance with the limits. ▪ Inspect the quench tower monthly for damaged or missing baffles and blockages and initiate repair or replacement of damaged or missing baffles within 30 days and complete as soon as practicable ▪ Demonstrate continuous compliance with the TDS limit in the water quenching water. ▪ Monitor the daily, monthly, and 12-month rolling totals of the amount of coke quenched ▪ Maintain records of all quench tower inspections when missing or damaged baffles or blockages are discovered ▪ Maintain baffles in the quench tower such that no more than 5 percent of the cross-sectional area of the tower is uncovered or open to the sky ▪ Maintain records that document conformance with the washing, inspection, and repair including records of the ambient temperature on any day that the baffles were not washed ▪ Maintain records of the source of make-up water to document conformance with the requirement for acceptable make-up water ▪ Maintain the daily, monthly, and 12-month rolling total of coke quenched. ▪ Maintain the daily, monthly, and 12-month rolling total of calculated emissions ▪ Report the monthly and 12-month rolling total of coke quenched and the calculated emissions ▪ Submit semiannual compliance reports for the quench towers ▪ Calculate the emissions of PM, CO, and VOC using the amount of coke quenched and the emission factors generated during the most recent stack testing to demonstrate compliance with the emission limits. ▪ Comply with the quench tower work practice standards, and operation and maintenance requirements of 40 CFR 63, Subpart CCCCC at all times, except during periods of startup, shutdown, and malfunction. <p>There are no other quench towers in Allegheny County.</p>	

The remaining permit conditions remain unchanged.

RECOMMENDATION:

All applicable Federal, State and County regulations have been addressed in the permit. The amended Title V Operating Permit for U.S Steel Clairton Plant should be approved with the emission limitations, terms and conditions in Permit No. 0052-OP22a.

Draft