

¶	Defendant's Concise Statement of Material Fact ("CSMF")	Plaintiffs' Responsive Concise Statement ("RCS")
		<p>U.S. Steel's motion for partial summary judgment is based almost exclusively on the argument that Plaintiffs' requests for injunctive relief, as described in certain documents, are as a matter of law too non-specific to be viable. A large proportion of the facts in Defendant's Concise Statement of Material Fact have no bearing on this issue and are therefore immaterial to this motion. Unless otherwise stated, each of Plaintiffs' objections below that a fact is "immaterial" incorporates this explanation.</p> <p>Because Plaintiffs only have a duty to controvert those <i>material</i> allegations made by U.S. Steel that they wish not to be established <i>for the purposes of the summary judgment motion</i>, Plaintiffs reserve the right to put forth additional evidence on such immaterial points at a later stage. <i>See</i> LCvR 56.C.1 (a responsive Statement of Undisputed Material Facts ("SUMF") may "admit[] or deny[]" whether each fact contained in [a SUMF] is undisputed <i>and/or material</i>") (emphasis added); <i>Sound Ship Bldg. Corp. v. Bethlehem Steel Co.</i>, 533 F.2d 96, 100 (3d Cir. 1976) (summary judgment award upheld where nonmoving party's proffered "factual matters, <i>disputed or not</i>, are immaterial to our decision") (emphasis added); <i>see also</i> Fed. R. Civ. P. 56, Advisory Committee Notes to 2010 Amendment ("A nonmovant ... may feel confident that a genuine dispute as to one or a few facts will defeat the motion, and prefer to avoid the cost of detailed response to all facts stated by the movant. This position should be available without running the risk that the fact will be taken as established under subdivision (g) or otherwise found to have been accepted for other purposes.").</p>
1.	<p>U. S. Steel owns and operates the Mon Valley Works, an integrated steelmaking operation that includes three facilities in the Monongahela Valley region of Allegheny County, Pennsylvania. (Complaint of NGO Plaintiffs ("NGO Compl."), Dkt. 1, ¶¶ 2, 42; U. S. Steel's Answer to NGO Compl. ("Answer to NGO Compl."), Dkt. 28, ¶¶ 2, 42.)</p>	<p>Undisputed.</p>

2.	The Mon Valley Works facilities include the Clairton Plant (where coke is produced via the destruction distillation of coal), the Edgar Thomson Plant (where coke is used to produce steel slabs), and the Irvin Plant (where the steel slabs undergo various finishing processes) (the Clairton, Edgar Thompson, and Irvin Plants are collectively referred to as the “Plants”). (NGO Compl., ¶¶ 2, 42-44, 61, 70; Answer to NGO Compl. ¶¶ 2, 42-44, 61, 70.)	Undisputed.
3.	U. S. Steel’s Clairton Plant is the largest by-products coke plant in North America. (PE_CAC 0006449, 6/28/2018 Allegheny County Health Department Enforcement Order #180601, at ¶ 3 (attached as Exhibit 1).)	Undisputed.
4.	As part of the coking process at the Clairton Plant, heating coal in ovens to make coke generates coke oven gas (COG), which is then collected, cleaned, and then used as fuel to heat the coke batteries at the Clairton Plant and fuel various boilers and furnaces at the Plants. (NGO Compl., ¶¶ 43-44, 53, 60; Answer to NGO Compl., ¶¶ 43-44, 53, 60; Transcript of 8/20/2020 Deposition of Michael Rhoads (“Rhoads Dep.”), at 13:18-14:16 (attached as Exhibit 2); USSP016120, 1/7/2019 Letter from M. Rhoads to J. Graham re: No. 2 Control Room, No. 5 Control Room, and Battery Stacks, at USSP016121 (attached as Exhibit 3).) Before it is combusted as fuel, COG is transported via pipelines through three areas of the Clairton Plant, referred to as the No. 1, 2 and 5 Control Rooms, where various constituents are removed from the COG. (Ex. 3 at USSP016121-22.) The Control Rooms contain specialized equipment, including the only cryogenic coke oven gas separation by-products plant in the world. (Id.; Transcript of 3/5/2021 Deposition of U.S. Steel Corporate Representative Michael Rhoads, at 125:22-126:1 (attached as Exhibit 4).)	<p>Disputed in part and immaterial in part.</p> <p>Plaintiffs dispute U.S. Steel’s statement that “[t]he Control Rooms contain specialized equipment, including the only cryogenic coke oven gas separation by-products plant in the world.”</p> <p>This purported fact is immaterial to U.S. Steel’s motion.</p> <p>Plaintiffs dispute this statement because the sources cited do not definitively state that the Control Rooms contain the “only” cryogenic coke oven gas separation plant in the world; rather, in the cited testimony, Clairton Works Plant Manager Michael Rhoads testified that it is the only such plant “to the best of our knowledge.” <i>See</i> LCvR 56.B.1 (requiring parties to cite the record in support of a material fact).</p> <p>Plaintiffs dispute this statement to the extent it implies that the cryogenic coke oven gas separation technology in the “cryogenic coke oven gas separation by-products plant” is advanced or innovative. The Control Rooms at Clairton have been in operation for more than 50 years. Sahu Dep., Jan. 14, 2021, 69:1-13 (attached as Ex. 1). The cryogenic gas separation plant contained in Control Room No. 2 was installed “in only a few coke plants around the world in the 1960s,” and “[s]hortly after installation it was discovered that the cryogenic cold piping accumulates Nitric Oxide</p>

		<p>(NO) ‘gums’ that become unstable and explode above (negative – 80F).” Expert Report of Ranajit Sahu, July 31, 2020 (“Sahu Report”) at 5 (attached as Ex. 2) (quoting U.S. Steel).</p> <p>Plaintiffs further dispute this statement to the extent it implies that the “specialized equipment” in the Control Rooms, other than the cryogenic coke oven gas separation plant, is unique. Dr. Sahu opined that the three control rooms at Clairton “are not meaningfully distinguishable in function and operation from other chemical plants,” and testified that “really any type of chemical plant” is essentially comparable to the functions at the Control Rooms. Ex. 1, Sahu Dep. 102:11-20, 101:10-103:25, 25:13-26:25 (while attending school in India in 1979 or 1980, Dr. Sahu interned at an integrated coke plant with desulfurization capability and another with a byproducts plant).</p>
5.	At the No. 1 Control Room, COG is cooled and ammonia, coal tar, and naphthalene are removed. (Ex. 3 at USSP016121; Ex. 2, Rhoads Dep. at 46:10-47:1.) The No. 1 Control Room also houses axial compressors that provide the suction to pull the COG off of the batteries before compressing it for transportation to and treatment at the rest of the Clairton Plant’s other COG processing facilities. (Ex. 2, Rhoads Dep. at 46:10-47:1.)	Undisputed.
6.	The No. 2 Control Room houses, among other things, cryogenic gas separation equipment and light oil recovery equipment that is used to remove benzene, toluene, xylene and other constituents from the COG generated at Clairton Plant. (Ex. 2, Rhoads Dep. at 47:5-48:19.)	Undisputed.
7.	The No. 5 Control Room houses, among other things, a COG desulfurization plant (“the Desulfurization Plant”) that is used to remove sulfur compounds from the COG. (Id. at 51:22-52:7.)	Undisputed.
8.	The Clean Air Act (“CAA”) directs each state to develop a permit program under state or local law that meets the requirements of subchapter V (or “Title V”) of the CAA. 42 U.S.C. § 7661a(d).	Undisputed.
9.	The Allegheny County Health Department (“ACHD”) issues permits to the Plants under Title V of the CAA. (Id. See also PE CAC	Undisputed.

	0018476, Vol. 1, 12/4/2018 Hearing Transcript at 91:16-92:13 (attached as Exhibit 5); ACHD1526632, 2/6/2019 Testimony of ACHD Director Dr. Karen Hacker before the Joint Senate and House Democratic Policy Committee Hearing on Improving Air Quality (attached as Exhibit 6).)	
10.	According to ACHD, the Clairton Plant is “subject to the most stringent [coke oven] regulations in the entire country.” (Ex. 5, at 91:16-18.)	<p>Disputed and immaterial.</p> <p>Facts regarding coke oven battery operations and coke oven regulations at Clairton (and U.S. Steel’s violation of or compliance therewith) are irrelevant and not material to the issues presented in U.S. Steel’s motion. Fed. R. Evid. 401, 402. The violations specifically alleged by Plaintiffs provide the basis for, and are the sole focus of, the injunctive relief Defendant moves to preclude. Plaintiffs do not allege <i>any</i> violations of the coke oven regulations to which this statement refers; rather, all counts in Plaintiffs’ and Plaintiff-Intervenor’s complaints arise from violations of a discrete set of permit conditions requiring U.S. Steel to operate pollution control equipment located in the Control Room areas of Clairton, <i>see, e.g.</i>, ECF No. 106, Plaintiffs’ Statement of Undisputed Material Facts (“Pls.’ SUMF”) ¶¶ 22-33, and that limit concentrations of H₂S, <i>see, e.g., id.</i> ¶¶ 34-45 (H₂S limits at Clairton), and emissions of SO₂, <i>see, e.g., id.</i> ¶ 62, at its Mon Valley Works facilities.</p>
11.	The Clairton Plant is subject to thousands of on-site daily inspections and observations seven days a week through a combination of full-time ACHD inspectors and third party inspectors hired by ACHD. (Ex. 5 at 105:19-106:11, 139:6-20; Transcript of 2/4/2021 Deposition of Dean DeLuca, at 219:24-222:2 (attached as Exhibit 7).)	<p>Disputed and immaterial.</p> <p>Plaintiffs incorporate RCS ¶ 10 as to the relevance and materiality of evidence regarding coke oven regulations: the referenced “inspections and observations” determine whether U.S. Steel complies with regulations that are applicable to coke ovens and associated equipment, and such regulations are not at issue in this lawsuit. Graham Dep., Dec. 3, 2020, 52:23-54:10 (attached as Ex. 3) (ACHD Air Quality Manager Jayme Graham testified that “ACHD’s inspectors and contract inspectors really only inspect the batteries, they don’t go down to the by-products area...[t]heir responsibility is the activity around the batteries themselves”); Kelly</p>

<p>Dep., Dec. 8, 2020, (“1st Kelly Dep.”) 235:21-236:8 (attached as Ex. 4) (Deputy Director of Environmental Health Bureau of ACHD Jim Kelly testified that ACHD only observes specific rule requirements for batteries); DeLuca Decl. ¶ 5(a) (filed herewith) (ACHD Air Quality Program Manager Dean DeLuca describing inspection and monitoring program at Clairton).</p> <p>Plaintiffs deny that ACHD and third-party inspectors conduct “thousands” of daily inspections, which is not supported by the cited materials, <i>see</i> LCvR 56.B.1, and is contradicted by other competent evidence in the record. DeLuca Decl. ¶ 5(a); DeLuca Dep., Feb. 4, 2021, 237:19-238:25 (attached as Ex. 5) (third party inspectors conduct 44 inspections a day, ACHD inspectors fewer). The vast majority of the referenced “inspections” are actually readings taken by monitoring equipment (“continuous opacity monitors”) that determines compliance with emission limits at coke oven battery stacks not at issue in this case. DeLuca Decl. ¶ 5(a).</p> <p>Finally, as ACHD Air Quality Program Manager Dean DeLuca testified, the coke oven regulations referenced here are so distinct from the permit requirements Plaintiffs seek to enforce here that ACHD treats violations of the two sets of regulations separately under its Civil Penalty Policy. <i>See</i> Ex. 5, DeLuca Dep. 225:19-226:22; <i>see also</i> ACHD Civil Penalty Policy at 12 (attached as Ex. 6) (greater than 99% compliance rate for coke battery violations does not increase penalty; for all other types of permit violations, four or more violations within 2 years results in application of maximum penalty factor). Nonetheless, ACHD aims for zero coke oven violations. Ex. 5, DeLuca Dep. 235:12-21.</p> <p>U.S. Steel’s citation to the Dec. 4, 2018 Hearing Transcript, ECF No. 93-5, from U.S. Steel’s appeal of ACHD Enforcement Order #180601 is immaterial. ACHD issued Enforcement Order #180601 on June 28, 2018. The Order and subsequent appeal pertain only to U.S. Steel’s violation of regulations regarding the operation of coke ovens at Clairton Coke Works. Enforcement Order 180601 ¶¶ 7-32</p>

		<p>(attached as Ex. 7). Such regulations are not at issue in this case. In the cited transcript, U.S. Steel’s counsel and ACHD Deputy Director Jim Kelly use general terms, such as “inspections” and “equipment,” and discuss compliance rates; this testimony applies specifically to coke ovens and associated enforcement. U.S. Steel cites this testimony out of context and misleadingly presents it as applicable to the permit requirements at issue here. Its limited probative value is substantially outweighed by the danger it will confuse the issues. Fed. R. Evid. 403.</p>
12.	<p>The Clairton Plant also has equipment that includes approximately 6,300 emission points (specific locations on equipment where air emission can occur). (Ex. 5 at 105:19-106:11.) Given the amount of mechanical equipment they contain, ACHD recognizes that complex industrial facilities, such as the Mon Valley Works, are not expected to be 100% compliant with their governing emission standards because this equipment can break down. (Id.)</p>	<p>Plaintiffs do not dispute that there are many emission points at the Clairton plant, but this fact is immaterial.</p> <p>Plaintiffs deny the remainder of the statement.</p> <p>Plaintiffs incorporate RCS ¶ 10 as to the relevance and materiality of evidence regarding coke oven regulations.</p> <p>Plaintiffs incorporate RCS ¶ 11 as to the lack of probative value of Defendant’s Ex. 5 (testimony from an unrelated and immaterial enforcement action). In addition, U.S. Steel mischaracterizes Mr. Kelly’s testimony, as follows: (1) he does not use the term “mechanical equipment”; his testimony is about coke ovens (“...there are hundreds of doors, there are hundreds of lids...”); (2) he does not testify about other “complex industrial facilities,” as the questioning is limited to compliance rates for coke oven batteries at Clairton, <i>see</i> ECF No. 93-5 at 107:3-12; (3) the term “governing emission standards” is not used in the transcript, and the testimony pertains only to coke oven batteries at Clairton. <i>See</i> LCvR 56.B.1 (requiring parties to cite the record in support of a material fact).</p> <p>Plaintiffs further dispute U.S. Steel’s characterization because the 99 percent target compliance rate referenced in the cited transcript, ECF No. 93-5 at 105:5-14, which is the basis for Mr. Kelly’s statement that “nowhere is 100 percent compliant,” <i>id.</i>, refers to a single</p>

		<p>penalty adjustment factor in ACHD’s Civil Penalty Policy which, in turn, <i>applies only to coke oven violations</i>. See RCS ¶ 11.</p> <p>Defendant’s proffered compliance rate expert, Dr. Bruce Dumdei, similarly attempted to impute statements from Mr. Kelly regarding this single coke oven regulation compliance target to all ACHD regulations that are applicable to the Mon Valley Works; when pressed, Dr. Dumdei confirmed that he did not encounter <i>any</i> documents in which ACHD sets only a 99 percent compliance target outside the context of coke oven regulations. Dumdei Dep., May 13, 2021, 64:22-66:18 (attached as Ex. 8). ACHD expects facilities to comply with the requirements of the permits issued pursuant to ACHD Air Quality regulations, and ACHD will issue violations against a facility that is not 100% compliance with the permit requirements. DeLuca Decl. ¶ 5(b).</p>
13.	<p>As part of its regulation and oversight of the Clairton Plant, ACHD can issue injunctive relief through enforcement orders against U. S. Steel when ACHD deems such action to be appropriate. See ACHD Rules and Regulations, Art. XXI, § 2109.03(a)(1) (ACHD “may also issue any such other orders as are necessary to aid in the enforcement” of air pollution controls) (attached as Exhibit 8).</p>	Undisputed.
14.	<p>ACHD has exercised its authority to issue injunctive relief against U. S. Steel without court oversight. For example, in direct response to the events at issue in this case, ACHD issued Enforcement Order 190202A which required U. S. Steel to, among other things, extend coking times across all batteries (which results in decreased coke production) and reduce the amount of COG combusted as fuel at the boilers at the Edgar Thompson Plant by specified time frames and in accordance with parameters set by ACHD. (ACHD 0772835, 3/12/2019 ACHD Enforcement Order #190202A, at ACHD 0772845-ACHD 0772846) (attached as Exhibit 9.)</p> <p>U. S. Steel fully complied with the terms of this March 12, 2019 Order. (Transcript of 12/8/2020 Deposition of James Kelly (“Kelly Dep.”), at 194:18–195:5 (attached as Exhibit 10).)</p>	<p>Disputed in part.</p> <p>Plaintiffs dispute this statement to the extent it implies (1) that the cited requirements of Enforcement Order 190202A were “set by ACHD” without input from U.S. Steel, and (2) that U.S. Steel was forthright with ACHD regarding its ability to extend coking times. The referenced Enforcement Order 190202A was preceded by Enforcement Order 190202, issued on February 28, 2019. Enforcement Order #190202 (“Initial Order”) (attached as Ex. 9). U.S. Steel appealed the Initial Order on March 7, 2019, arguing that ACHD “abused its discretion and acted unreasonably, arbitrarily, capriciously, contrary to law and in a manner not supported by evidence.” Notice of Appeal ¶ 7 (attached as Ex. 10); Notice of Material Impossibility (attached as Ex. 11); <i>see also</i> Ex. 3, Graham</p>

Dep. 158:11-19 (190202A is a “replacement order”); Ex. 5, DeLuca Dep. 103:18-104:5 (190202 appealed and amended following “a couple meetings” between ACHD and U.S. Steel). Relying on representations from U. S. Steel, ACHD adjusted certain requirements in the Initial Order, and issued Enforcement Order 190202A. Enforcement Order #190202A ¶ 37, ECF No. 93-9 (“Amended Order”) (“Based solely on the information communicated to the Department by U.S. Steel, the Department hereby amends Enforcement Order #190202....”).

The Initial Order required U. S. Steel to extend coking times across all ten coke oven batteries by no less than 15 minutes each day, setting a deadline of March 29, 2019, by which half of the coke oven batteries were to reach 30-hour coking times and the other half 36 hours. Ex. 9, Initial Order at ACHD0955624-35. In its appeal, U.S. Steel warned that “fire balls” could result from extending coking times by 15 minutes per day and submitted photographs of a previous explosion at the Clairton plant. Ex. 11, Notice of Material Impossibility at USSP000481-82 (“Extending coking times can lead to unstable operations. During periods of excessively extended coking times, the risks of harm to employees, contractors and the public are increased.”). U.S. Steel warned that “[a]djusting coking times has a detrimental impact to stack performance,” and “[h]istorical data shows that during periods of adjusting coking times, increases in stack and fugitive emissions have occurred.” *Id.* at USSP000487. U.S. Steel stated that it would extend coking times to 27 hours at all batteries by March 28, 2019, and claimed “[t]o reduce the [coking time] further could jeopardize the scheduled restart of the No. 2 and 5 Control Rooms.” *Id.* at USSP000493-94. U.S. Steel’s counter-proposal is embodied in Enforcement Order 190202A. ECF No. 93-9, Amended Order ¶¶ 31-34.

Contrary to what it told ACHD, U.S. Steel testified in this case that safety concerns from extended coking times arise at times *over* 36 hours. Rule 30(b)(6) Dep. of U.S. Steel, Mar. 5, 2021, Witness Michael Rhoads, (“USS Dep. (Rhoads)”) 79:12-80:4 (attached as

		<p>Ex. 12) (admitting that “[t]he maximum that we’ve ever operated a coke battery at Clairton is 36 hours. ... [I]f you extend much beyond that, you run into real significant concerns from a safety standpoint,” and agreeing that “36 hours, that’s the maximum coking time before you start to run that explosive safety risk that you described earlier, right?”).</p> <p>U. S. Steel also testified in this case that it has extended coking times to 36 hours both before and since the December Fire. Ex. 12, USS Dep. (Rhoads) 86:6-89:9 (longest coking time of 36.5 hours in 2015; 36 hours in 2016; 36.1 hours in 2017; 36 hours in 2018; 28 hours in 2019; 36 hours in 2020).</p> <p>ACHD personnel testified that U.S. Steel’s representations regarding extending coking times, during the dispute over issuance of the enforcement orders referenced above, were misleading. Ex. 4, Kelly Dep. 1 at 163:9-164:11 (as of January 9, 2019, U.S. Steel disclosures about extended coking time were incomplete); Ex. 5, DeLuca Dep. 127:25-129:22 (ACHD subsequently determined that “increased” coking times implemented after the December Fire were less than U.S. Steel’s average coking times in past years); Hacker Dep., Feb. 4, 2020, 91:6-14 (attached as Ex. 13) (former Director of ACHD Dr. Karen Hacker testified, “In retrospect, I do not think [the mitigation efforts] were adequate...[b]ecause when we finally got the information from U.S. Steel about how much they were emitting it was quite alarming.”).</p> <p>For these reasons, Plaintiffs also dispute U.S. Steel’s statement that it “fully complied” with ACHD’s enforcement. <i>See</i> LCvR 56.B.1.</p>
15.	On December 24, 2018, a fire ignited in the No. 2 Control Room area of the Clairton Plant (the “December Incident”). (NGO Compl., ¶ 78; Answer to NGO Compl, ¶ 78; Complaint of Plaintiff-Intervenor ACHD (“ACHD Compl.”), Dkt. 25, ¶ 37; U. S. Steel’s Answer to ACHD Compl. (“Answer to ACHD Compl.”), Dkt. 29, ¶ 37.)	Undisputed.

16.	The December Incident was initiated when a section of the fire suppression piping (sometimes referred to as “deluge piping”) fell from the ceiling of the No. 2 Control Room and severed a lube oil supply line connected to the C-521 axial compressor, a machine used to push COG through the control equipment in the No. 2 Control Room and on to the No. 5 Control Room. (See U. S. Steel’s Responses to Request No. 2 in Plaintiffs’ First Set of Requests for Admission (“U. S. Steel’s Responses to Plaintiffs’ Requests for Admission”), the relevant portions of which are attached as Exhibit 11; Ex. 3 at USSP016121.)	Plaintiffs do not dispute that the identified events occurred in the order presented, but add that the root cause investigation performed by EDT Forensic Engineering & Consulting, which is the basis for the discovery response cited by U.S. Steel, determined that the deluge piping fell after a severely corroded pipe fitting gave way. See ECF No. 106, Pls.’ SUMF ¶ 14. EDT determined “[t]he root cause of the incident was due to long term corrosion, which initiated the falling deluge lines that severed the one-inch lube oil supply line.” Report of EDT Consulting, May 10, 2019 (“EDT Report”) at 56 (USSP002942) (excerpts attached as Ex. 14).
17.	After the lube oil supply line was severed, a drive shaft in the C-521 axial compressor fractured, and the resulting vibrations led to the separation of a pipe flange, which resulted in the release of flammable COG into the No. 2 Control Room. (Ex. 11 at No. 3.) This COG was then ignited by a lube oil fire, which caused extensive damage to the No. 2 Control Room and resulted in the shutdown of both the No. 2 Control Room and the downstream No. 5 Control Room. (Id. at No. 5; Ex. 3)	Plaintiffs do not dispute that the identified events occurred in the order presented, but add that the root cause investigation performed by EDT Forensic Engineering & Consulting, which is the basis for the discovery responses cited by U.S. Steel, determined (1) the drive shaft in the C-521 axial compressor that fractured “contained a preexisting crack that had propagated approximately 80 percent through the cross section of the shaft,” and the crack “had initiated due to corrosion fatigue,” Ex. 14, EDT Report at 58 (USSP002944); and (2) a check valve located downstream of the separated flange, which was designed to limit the potential backflow of coke oven gas into the C-521 axial compressor, failed due to long-term corrosion and thus did not prevent the backflow of coke oven gas into the No. 2 Control Room. See ECF No. 106, Pls.’ SUMF ¶ 16.
18.	U. S. Steel notified ACHD of the December Incident less than one hour after its occurrence. (Transcript of 12/3/2020 Deposition of Jayme Graham, at 20:14-21:25, 40:10-17) (attached as Exhibit 12).)	Immaterial. Plaintiffs do not dispute that U.S. Steel notified ACHD of the December Incident less than one hour after its occurrence, but note that U.S. Steel is <i>required</i> by its Clean Air Act permit to inform ACHD of any breakdowns within 60 minutes. ECF No. 93-12 at 21:13-15.
19.	As a result of the December Incident, and because coke oven batteries cannot be quickly and safely shut down, U. S. Steel anticipated that its inability to process COG at the No. 5	Disputed to the extent it is incomplete, and immaterial.

<p>Control Room could potentially result in increased emissions of SO₂. (USSP000495, 12/31/2018 Letter from S. Zelenski to K. Sagel re: #2 & #5 Control Rooms; Battery Stacks, at USSP00496 (attached as Exhibit 13); Ex. 2, Rhoads Dep., at 83:13-84:4.)</p>	<p>Plaintiffs add that U.S. Steel misrepresented the “potential” increased emissions of SO₂ in the cited letter to ACHD, ECF No. 93-13. In the letter, sent one week after the December Fire, U.S. Steel (1) states there will be “<i>potential</i> increases of SO₂, VOCs, and total reduced sulfur,” that “[t]he breakdown <i>may</i> also cause increases of emissions at coke oven gas combustion sources at Irvin and ET, in addition to Clairton,” and “Clairton combustion stack emission particulate <i>may potentially</i> be elevated beyond those occurring during normal operations” (emphasis added); (2) describes the amount of SO₂ to be emitted as “light to moderate”; and (3) states the facility will be back in operation within “hours.”</p> <p>ACHD personnel testified that this correspondence gave an inaccurate impression of the size and impact of the December Fire and delayed public alerts and enforcement. Ex. 4, 1st Kelly Dep. 54:4-55:24 (breakdown reports “terribly misleading” because U.S. Steel “said that the emissions were light to moderate and the equipment would be back on within hours. The equipment didn’t come back on until April” and ACHD first understood the equipment would not be back on “within hours” on January 9, or late January 8, and “that’s when we took immediate action to alert the public.”); Dep., Dec. 9, 2020 (“2d Kelly Dep.”) at 371:9-372:10 (attached as Ex. 15) (reiterating “[a]t this time, I do not” believe U.S. Steel statements regarding amount of emissions and amount of time for facility to be back in operation were truthful, and characterizing actual level of emissions as “[e]xceptionally high.”); Ex. 5, DeLuca Dep. 29:12-23 (“At that time [from December 24 until a plant visit in early-January] there wasn’t a whole lot that [ACHD was] doing. ... [T]he information we had at the time didn’t really convey to us an urgency that we found out about later on.”); <i>id.</i> at 33:1-9 (“we got the information about how bad it was in early February. I think February 4.”); Ex. 13, Hacker Dep. 59:21-60:7 (“It was not until I believe sometime in March that we actually learned about the volume of emissions that ... were being flared, and it was much higher than we could have imagined, and they had not shared that information with us.”); Ex. 3, Graham Dep. 146:6-22</p>
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		<p>(“...when the breakdown report came in it said something like minimal or moderate emissions or something that was very – a low emission issue that they reported. It wasn’t until we ... started receiving emissions data where we realized ... what a huge issue we were talking about.”).</p>
20.	<p>U. S. Steel immediately took steps to mitigate the potential for increased SO₂ emissions by (1) reducing coke production, which resulted in reduced COG production and combustion and therefore lower SO₂ emissions; (2) purchasing natural gas to blend with the COG that was used as fuel at the Plants, thereby reducing the H₂S content in the combined gas and lowering SO₂ emissions; and (3) combusting excess COG at the flares at the Irvin Plant, which are located at high elevations, in order to increase air dispersion of emissions. (Ex. 3, at USSP016124; Ex. 2 at 101:16-24; PE_CAC 0005908, 1/23/19 ACHD Weekly Update (attached as Exhibit 18)).</p>	<p>Disputed in part and immaterial</p> <p>Plaintiffs dispute that U.S. Steel took steps to mitigate SO₂ emissions “immediately,” a term which does not appear in the cited materials, <i>see</i> LCvR 56.B.1. The cited materials only indicate that U.S. Steel employed the identified mitigation measures as of January 7, 2019, two weeks after the December Fire.</p> <p>Specifically as to step (1), Plaintiffs deny U.S. Steel’s assertion that it “immediately” reduced coke production, which is contradicted by other competent evidence in the record. <i>See</i> RCS ¶ 14; <i>see also</i> Mitigation Letter from U.S. Steel to ACHD, Jan. 7, 2019 (“1/7/2019 Letter”) at USSP016124-25 (attached as Ex. 16) (U.S. Steel discloses coking times across batteries 13-15, 19, 20, B, and C, does not indicate when changes to 19, 20, B, and C occurred, does not disclose whether batteries were operating at “normal” coking times prior to December Fire, does not indicate that any increased coking times took place); <i>see also</i> RCS ¶ 14.</p> <p>On step (2), Plaintiffs admit U.S. Steel purchased natural gas to blend with the coke oven gas, but deny that this reduced the H₂S “content.” Adding natural gas to certain gas streams reduced the <i>concentration</i> of H₂S in those gas streams, but did not remove any H₂S from the system and thus did not lower overall SO₂ emissions from the Mon Valley Works plants. DeLuca Decl. ¶ 5(c); Ex. 3, Graham Dep. 50:22-51:11 (“It still puts that much sulfur dioxide into the atmosphere, but there’s a little bit – there’s better spreading of the emissions”), 58:17-21 (coke oven gas must be burned or flared); Ex. 5, DeLuca Dep. 46:15-47:6 (despite injecting natural</p>

		<p>gas, “you’re still burning the coke oven gas. You’re just burning it at a different location...it could potentially add to emissions, because more fuel is being burned.”), 53:16-19 (same); Ex. 4, 1st Kelly Dep. 83:6-84:5 (difficult to call use of natural gas “an effective mitigation tactic because you’re just moving emissions around. The entire amount of coke oven gas being emitted is still being burned somewhere.”)</p> <p>On step (3), Plaintiffs deny that flaring untreated COG is a mitigation measure. Flares are inefficient and ineffective as pollution control devices. Ex. 2, Sahu Report at 2, 42 (noting “combustion process is not particularly efficient” at Irvin due to “rudimentary and simple design” of the flares), 42-44 (general explanation of destruction efficiency of flares).</p>
21.	<p>On February 6, 2019, ACHD Director Dr. Karen Hacker testified before the Joint Senate and House Democratic Policy Committee Hearing on Improving Air Quality. (Ex. 6.) Among other things, Dr. Hacker informed the Committee members that U. S. Steel’s voluntary efforts to mitigate the impacts of the December Incident by extending coking times and increasing the use of natural gas were “more than [ACHD] would have required.” (Id. at ACHD1526635)</p>	<p>Disputed in part and immaterial.</p> <p>Plaintiffs’ do not dispute that on February 6, 2019, Dr. Hacker said that U.S. Steel’s mitigation efforts were “more than we would have required.” Plaintiffs dispute that this accurately represents Dr. Hacker’s testimony in this case or her current views. Dr. Hacker testified in this case that, at that time, U.S. Steel had not disclosed to ACHD the true volume of excess emissions caused by the December Fire. Ex. 13, Hacker Dep. 59:15-60:12 (“[i]t was not until I believe sometime in March that we actually learned about the volume of emissions ... that were being flared, and it was much higher than we could have imagined, and they had not shared that information with us...I do think that there was a lack of transparency.”), 88:10-21(“I think we were concerned that the mitigation efforts they were involved in were not adequate.”), 91:6-14 (“In retrospect, I do not think [the mitigation efforts] were adequate...[b]ecause when we finally got the information from U.S. Steel about how much they were emitting it was quite alarming.”); <i>see also</i> Ex. 4, 1st Kelly Dep. 157:23-158:3 (“the mitigation strategies were not very effective”).</p>

22.	<p>From January 7, 2019 through April 5, 2019, U. S. Steel provided ACHD with weekly updates regarding its efforts to repair the damage from and investigate the cause of the December Incident. (See, e.g., USSP018700, 4/5/2019 Letter from M. Rhoads to J. Graham re: Weekly Update (attached as Exhibit 14).) And from February 6, 2019 through June 25, 2019, U. S. Steel provided ACHD regular estimates of SO2 emissions from the various sources at the Clairton, Edgar Thomson, and Irvin Plants. (See, e.g., ACHD1533222, 6/25/2019 Letter from M. Rhoads to J. Graham re: Weekly Update Regarding SO2 Emissions per Enforcement Order #190202A (attached as Exhibit 15).)</p>	<p>Disputed in part and immaterial.</p> <p>Plaintiffs dispute U.S. Steel’s use of the term “estimates” to describe the SO2 emission measurements it submitted to ACHD, to the extent it suggests the measurements are not accurate or not binding. <i>See</i> ECF No. 106, Pls.’ SUMF ¶¶ 62-64 (per U.S. Steel’s Permits, “[e]missions of SO2 shall be determined by converting the <i>H2S grain loading of the fuel burned</i> and the <i>fuel flow rate</i> to pounds per hour to determine compliance with the emission limitations...”) (emphasis added); <i>see</i> Scheetz Dep., Dec. 2, 2020, 79:24-80:14 (attached as Ex. 17) (U.S. Steel Environmental Engineer Jonelle Scheetz testified that because the Clairton plant does not have an SO2 monitor, U.S. Steel measures SO2 emission levels by calculations that use the concentration of H2S measured in the coke oven gas and the flow rate); Woodwell Dep., July 25, 2020, 105:9-106:11 (attached as Ex. 18) (U.S. Steel Vice President of Environmental Affairs Tishie Woodwell testified that U.S. Steel’s permits require U.S. Steel to measure SO2 emission levels using calculations). U.S. Steel measures its SO2 emissions by calculating them in the manner required by its permits and by conducting stack tests, which it performs every two years. Ex. 18, Woodwell Dep. 108:19-109:8. U.S. Steel has not considered utilizing a continuous emission monitor to directly capture SO2 emissions at the Mon Valley Works “because [these] methods of determining SO2 emissions are deemed adequate per the permit requirements.” <i>Id.</i> at 109:20-110:3.</p>
23.	<p>In addition to the emissions estimates provided by U. S. Steel, ACHD gathered air quality data following the December Incident from its network of air monitoring stations throughout Allegheny County. (Ex. 6, at ACHD1526633-35; NGO Compl. ¶ 194; Answer to NGO Compl, ¶ 194; Transcript of 2/23/2021 Deposition of David Good, at</p>	<p>Disputed in part.</p> <p>Plaintiffs incorporate their RCS ¶ 22 as to U.S. Steel’s use of the term “estimates.”</p>

	<p>11:21-12:3 (attached as Exhibit 16.) Among other things, these monitors assist ACHD in determining whether Allegheny County is compliant with National Ambient Air Quality Standards (“NAAQS”) for various constituents, including SO₂, established by the United States Environmental Protection Agency (“U.S. EPA”). (Ex. 10, Kelly Dep. 40:22-41:21.)</p>	<p>Plaintiffs object to U.S. Steel’s use of the term “constituents” (“for various constituents”) rather than “pollutants,” which is the term utilized in the cited material. LCvR 56.B.1.</p> <p>Plaintiffs dispute this statement to the extent U.S. Steel implies that ACHD’s network of air monitoring stations were properly situated to gather accurate air quality data following the December Fire. <i>See</i> RCS ¶¶ 61-62.</p>
24.	<p>U.S. EPA has established a daily 1-hour NAAQS for SO₂ of 75 parts per billion (“ppb”). E.g., Review of the Primary National Ambient Air Quality Standards for Sulfur Oxides, 84 Fed. Reg. 9866 (Mar. 18, 2019). The SO₂ NAAQS standard applies to a three-year period and allow a certain number of hourly exceedances to occur over this period. <i>Id.</i>; 84 Fed. Reg. at 9869.</p>	<p>Disputed in part. U.S. Steel’s description of the NAAQS standard is incomplete and misleading.</p> <p>The determination as to whether a geographic region is in “attainment” of the daily 1-hour NAAQS for SO₂ is calculated using the 99th percentile of daily maximum 1-hour SO₂ concentrations at a given monitor or set of monitors (<i>i.e.</i>, the 4th highest daily maximum of the year), averaged over 3 years. 84 Fed. Reg. 9866. Thus, because of the way compliance is calculated for a region, a small number of exceedances may occur in that region without the area losing its attainment status. <i>Id.</i></p> <p>But Plaintiffs dispute any suggestion that sources of SO₂ are “allowed” to cause any exceedances of the 75 ppb NAAQS threshold. <i>See, e.g.</i>, ECF No. 87-2, Clairton Title V Permit III.1.b (prohibiting emissions that cause exceedance of NAAQS ambient air quality standards standards).</p>
25.	<p>U.S. EPA established the SO₂ standard to provide an “adequate margin of safety” given that scientific research has not produced evidence of adverse health responses or health symptoms for SO₂ emissions below 200 ppb. <i>Id.</i>; 84 Fed. Reg. at 9867.</p>	<p>Disputed in part.</p> <p>Plaintiffs dispute U.S. Steel’s assertion “that scientific research has not produced evidence of adverse health responses or health symptoms for SO₂ emissions below 200 ppb.” In deposition testimony regarding the EPA review cited as support for this statement, U.S. Steel’s medical causation expert Dr. Robert</p>

McCunney acknowledged that the EPA did not review any studies of exposures below 200 ppb before it established the SO₂ standard because no such studies were available. McCunney Dep., May 25, 2021, 105:2-106:12 (attached as Ex. 19). Dr. McCunney admitted that the limited data on exposures to SO₂ concentrations below 200 ppb “indicates a *lesser* response than that of the 200 parts per billion level,” which contradicts U.S. Steel’s assertion that there is no evidence of adverse health responses. *Id.* at 105:2-23 (emphasis added). Plaintiffs’ public health expert, Dr. Deborah Gentile, testified in her deposition that “[t]here are numerous studies I discuss in my [expert] report looking at the impact of SO₂ on asthma symptoms, rescue medication use, acute visits and emergency department visits, and they occurred with exposures less than 200.” Gentile Dep., Jan. 22, 2021, 129:24-130:17 (attached as Ex. 20); *see also* Ex. 13, Hacker Dep. 74:8-18 (levels of SO₂ recorded after the December Fire “result in a risk to public health, period.”). Defendant’s toxicology expert Christopher Long confirmed studies that report associations between concentrations of sulfur dioxide of less than 200 parts per billion (and 75 parts per billion) and adverse health effects on humans. Long Dep. May 11, 2021, 209:11-210:6 (attached as Ex. 21).

Plaintiffs add that U.S. Steel’s characterization of the EPA’s “adequate margin of safety” threshold does not take into account impacts from prolonged exposures to SO₂. *See* 84 Fed. Reg. 9866 (“The 1-hour standard was established to provide protection from respiratory effects associated with exposures as short as a few minutes based on evidence from health studies that documented respiratory effects in people with asthma exposed to SO₂ for 5 to 10 minutes while breathing at elevated rates.”); *see also* Ex. 19, McCunney Dep. 98:19-24 (responding to the question “Is it fair to say that the margin of safety for the sulfur dioxide NAAQS [referring to 75 ppb] is a margin of safety designed to protect public health?” saying, “I think that’s a reasonable inference to draw. That’s why these standards are established, to protect human health.”).

26.	The two highest SO ₂ exceedances recorded between December 24, 2018 and April 4, 2019 were 145 ppb (on December 28, 2018) and 85 ppb (on January 3, 2019). (10/2/2020 Expert Report of Jason Maranche, at p. 2, Table 2-1 (attached as Exhibit 17).)	Undisputed.
27.	Following the December Incident, U. S. Steel also paid for the installation of additional, special purpose air monitoring stations, which were located, installed, and operated by ACHD solely to record air emissions from U. S. Steel's Plants following the December Incident. (Ex. 16 at 52:4-17; Ex. 18; ACHD0832568, ACHD Air Monitoring Network Plan for Calendar Year 2021 (attached as Exhibit 19) at ACHD0832578.) No exceedances of the 1-hour SO ₂ NAAQS were recorded by these additional monitors. (Ex. 19 at ACHD0832578.)	<p>Disputed in part and immaterial.</p> <p>Plaintiffs' dispute U.S. Steel's statement that it "paid for the installation of additional special purposes air monitoring stations," which is not supported by the cited materials, LCvR 56.B.1. The statement is irrelevant and immaterial to the present motion. Fed. R. Evid. 402-403.</p> <p>Plaintiffs deny that the special purpose air monitoring stations "record air emissions from U.S. Steel's Plants." The special purpose air monitoring stations are (or were) ambient air monitors located in communities near U.S. Steel's plants; as such, they can detect the presence and concentration of pollutants originally emitted from U.S. Steel's plants in those communities, but they are not designed to measure the amount or rate of pollutants emitted from U.S. Steel's plants. U.S. Steel's emissions are measured by the methods set forth in its permits. DeLuca Decl. ¶ 5(d); <i>see</i> RCS ¶ 22.</p> <p>U.S. Steel's statement that "no exceedances of the 1-hour SO₂ NAAQS were recorded by these additional monitors" is incomplete. U.S. Steel does not disclose that data from the Clairton special purpose SO₂ monitor includes periods when no measurements were recorded, and it is impossible to determine whether exceedances occurred during these periods. <i>See, e.g.</i>, Data from Clairton Special SO₂ Monitor, ACHD0788960-62 (Jan. 29 10:46 a.m. - 12:01 p.m.), ACHD0788984-85 (Jan. 30 00:45 a.m. - 1:15 a.m.) (excerpts attached as Ex. 22).</p> <p>Plaintiffs add that ACHD's special purpose air monitoring stations were not properly sited so as to best detect the impacts of U.S.</p>

		<p>Steel’s SO2 emissions following the December Fire. <i>See</i> Ex. 4, 1st Kelly Dep. 49:2-50:13 (locating a monitor in a short amount of time is difficult for numerous reasons, “[w]e didn’t have the emission information submission to know what the highest concentration would be in order to focus our effort to locate monitors,” and “[ACHD] could have done much better” locating the monitors.). ACHD did not place a special purpose air monitoring station to the immediate north/northwest of the Irvin plant, even though air dispersion modeling showed that would be the area most heavily affected by emissions from the Irvin flares. Maranche Dep., May 5, 2021, (“2d Maranche Dep.”) 300:22-301:19 (attached as Ex. 23).</p>
28.	<p>On February 6, 2019, ACHD Chief Epidemiologist Dr. LuAnn Brink testified before the Joint Senate and House Democratic Policy Committee Hearing on Improving Air Quality and conveyed several “important points” regarding the impact of the December Incident on the public health including, among other things, that:</p> <p>a. According to the Code of Federal Regulations, individuals without underlying health conditions (i.e., uncompromised individuals) typically experience moderate changes to lung function when exposed to concentrations of SO2 totaling 400 ppb and above, and that individuals with underlying health conditions (i.e. vulnerable individuals) typically experience changes in lung function when exposed to concentrations of 200 ppb and above. (Ex. 6, at ACHD1526635);</p> <p>b. SO2 concentrations of 800 ppb for a 24-hour period constitute “emergency levels.” (Id.); and</p> <p>c. ACHD conducted an analysis of visits to emergency departments in the Mon Valley for asthma before and after the December Incident and determined that there was no increase in asthma-related visits after the December Incident. (Id.)</p>	<p>Disputed in part.</p> <p>Plaintiffs admit Dr. Brink conveyed the points enumerated in the cited document on February 6 2019. Plaintiffs dispute that this accurately represents Dr. Brink’s testimony in this case or her current views. U.S. Steel fails to disclose (1) Dr. Brink’s admitted lack of expertise regarding health effects of SO2 at the time of these remarks; and (2) her subsequent retraction of points (a) and (c).</p> <p>At the time of the cited statement, Dr. Brink had “not done any independent research on the health effects of SO2,” but, as the Chief Epidemiologist at ACHD, was “the best person available at that time” to give testimony to legislators. Brink Dep., Dec. 10, 2020, (“1st Brink Dep.”) 68:13-21 (attached as Ex. 24); <i>see</i> Brink Dep. June 5, 2021, (“2d Brink Dep.”) 184:10-185:4 (attached as Ex. 25) (prior to hearing “had no expertise in the health effects of sulfur dioxide”); <i>see also</i> Ex. 4, 1st Kelly Dep. 60:14-23 (confirming health impacts of air emissions were not Dr. Brink’s area of expertise and “she had to spend some time bringing herself up to speed on the impact of emissions”). Dr. Brink’s research prior to the hearing was “fairly cursory,” and “at this time we had really just begun to understand the situation,” but she wanted to communicate that there “was no immediate danger to life.” Ex. 24, 1st Brink Dep. 51:25-52:25.</p>

		<p>Dr. Brink specifically recanted her testimony suggesting that individuals with underlying health conditions only experience health effects when exposed to SO₂ concentrations of 200 ppb and above, citing (1) her subsequent review of studies that found effects at lower levels, and (2) her determination that her own analysis of emergency department visit summarized in section (c) was incorrect: she found that during the time pollution controls were shut down after the December Fire “the <i>proportion</i> of all emergency department visits that were attributable to asthma <i>was double</i> that during normal operating times.” Ex. 24, 1st Brink Dep 60:18-64:4 (emphasis added), 143:8-144:24 (“when I realized the proportion of [ED] visits that were attributable to asthma doubled during that time...I called another epidemiologist who has some expertise in environmental work...and said, oh, my god, we totally missed this, do you guys think this is right. And they said, oh my God, we missed this.”). An ongoing study of “subacute” health effects during the breakdown period, or “health effects that are not as severe as a visit to the emergency room,” also indicated that there were health effects associated with the levels of SO₂ seen during the breakdown period, further informing Dr. Brink’s current understanding that SO₂ can have physical effects at levels below 200 ppb. Ex. 25, 2d Brink Dep. 191:21-192:20.</p>
29.	<p>U. S. Steel worked around the clock to repair the damage caused by the December Incident, and the Clairton Plant was fully operational by April 4, 2019—sooner than originally anticipated. (Ex. 10, Kelly Dep. 196:15-25; Transcript of 11/5/2020 Deposition of Dr. Karen Hacker, at 172:17-173:2 (attached as Exhibit 20).)</p>	<p>Not disputed but immaterial, with the clarification that the cited sources do not state that U.S. Steel worked “around the clock,” but rather that it worked expeditiously and promptly to complete the repairs earlier than April 15, the deadline set by ACHD in Enforcement Order 190202A. <i>See</i> LCvR 56.B.1.</p>
30.	<p>On June 17, 2019, in an unrelated event in a different portion of the Clairton Plant than the December Incident, an electrical malfunction occurred in a breaker box which provides power to the equipment in the No. 1 Control Room. (USSP004909, 6/17/2019 Breakdown</p>	<p>Disputed in part.</p> <p>Plaintiffs do not dispute that an electrical malfunction occurred, but add that: (1) on June 17, 2019, a fault in a transformer required U.S.</p>

<p>Report (attached as Exhibit 21).) The electrical failure ultimately led to an operator error that caused a coupling on one of the vacuum machines in the No. 2 Control Room to fail and lube oil to discharge, which resulted in a small lube oil fire in the No. 2 Control Room (the “June Incident”). (Id.; see also Ex. 11, U. S. Steel’s Responses to Plaintiffs’ Requests for Admission, Nos. 28-30.) The lube oil fire was extinguished by U. S. Steel personnel and repairs were completed within hours. (Ex. 21.) There were no hourly SO2 exceedances recorded on June 17, 2019.</p>	<p>Steel to take it offline, Report of U.S. Steel Experts Albert Rose and Thomas D. Traubert, Mar. 1, 2021, (“Rose Report”) at 6 (attached as Ex. 26); (2) that cut power to the “breaker box,” a General Electric Magne-Blast style switchgear that was manufactured in 1966 and distributes 4,160 volts to the No. 1 Control Room, <i>id.</i> at 13; (3) the individual breaker within the switchgear that malfunctioned – causing “significant arcing and fire damage in the compartment that housed the breaker and catastrophic damage to the [breaker],” <i>id.</i> at 14 – “had reached the end of ... its service life” and fractured in a way that U.S. Steel’s electrical engineering expert testified he had “never seen fracture before,” Rose Dep., May 28, 2021, 96:20-97:15 (attached as Ex. 27); and (4) starting in the early 1990s, General Electric manufactured retrofit kits for the Magne-Blast switchgear to upgrade the breaker that failed with newer technology that would have prevented this failure, but U.S. Steel did not retrofit the switchgear, <i>id.</i> at 92:19-93:14.</p> <p>Plaintiffs add that the resulting loss of electrical power to the No. 1 Control Room required U.S. Steel to bypass coke oven gas around the No. 2 and No. 5 Control Rooms, Ex. 26, Rose Report at 1, that this bypass period lasted 15.92 hours, ECF No. 87, Joint Stipulations of Facts (“JSF”) ¶ 68, and that during the bypass period no coke oven gas was treated in the Nos. 1, 2 and 5 Control Rooms, <i>id.</i></p> <p>Plaintiffs dispute that the subsequent lube oil fire in the No. 2 Control was “small,” a characterization which is unsupported by the cited materials, LCvR 56.B.1, and contradicted by deposition testimony. Traubert Dep., June 22, 2021, 102:6-103:2 (attached as Ex. 28) (U.S. Steel Expert Thomas Traubert testified that at least several hundred of gallons of lube oil were released), 205:23-206:2 (flames from lube oil fire were 8 to 10 feet high). Plaintiffs also clarify that the fire occurred during, not prior to, the bypass of the Control Rooms, Ex. 26, Rose Report at 1 (“[a] mechanical malfunction was experienced by vacuum machine C-533 <i>during the bypass period</i>, resulting in a fire at C-533 [in the No. 2 Control Room]”).</p>
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		<p>Plaintiffs do not dispute that the “June Incident” was precipitated by “an unrelated event in a different portion of the Clairton Plant than the December Incident,” but clarify that both the June Incident and the December Incident involved lube oil fires and catastrophic compressor failures in the No. 2 Control Room, ECF No. 87, JSF ¶¶ 54-57, 67, and required U.S. Steel to bypass pollution control equipment in the No. 2 and No. 5 Control Rooms, <i>id.</i> ¶¶ 64, 68.</p> <p>Plaintiffs do not dispute that there were no hourly SO2 exceedances recorded on ACHD’s network of air quality monitors on June 17, 2019, but add that U.S. Steel violated permit limits on H2S concentrations in coke oven gas. ECF No. 87, JSF ¶¶ 79-89, 91-98.</p>
31.	In addition to repairing the damage caused by the December and June Incidents, U. S. Steel completed multiple projects at and improvements to the Clairton Plant in order to both generally upgrade the Clairton Plant’s operations and prevent situations similar to the December and June Incidents from occurring in the future. (U. S. Steel’s Responses to PennEnvironment’s Third Set of Interrogatories, at Nos. 7 & 8 (attached as Exhibit 22); Ex. 2, Rhoads Dep. at 84:8-86:4.)	Undisputed but immaterial.
32.	These projects varied widely in size, scope, and cost, ranging from, for example, installing electrical switchgear at a cost of about \$4.85 million, installing real-time vibration detection equipment for the axi compressors in the Nos. 1, 2, and 5 Control Rooms at a cost of about \$3.2 million, to allowing for additional dye penetrant testing for these compressor rotors at a cost of about \$216 per rotor. (Ex. 22; Ex. 2 at 84:8-86:4.)	<p>Disputed in part and immaterial.</p> <p>Plaintiffs deny that U.S. Steel has installed a new electrical switchgear; U.S. Steel’s electrical engineering expert testified it has not yet been delivered and U.S. Steel is still using the switchgear that caused the June Fire. Ex. 27, Rose Dep. 88:20-89:23 (as of May 28, 2021, “we were told that it was going to be delivered and started in the April of this year time frame” but “considering what happened with COVID, I don’t even know if it got delivered yet” and “they’re using this repaired switchgear”).</p> <p>Plaintiffs deny any implication that “real-time vibration detection equipment” could not have been installed prior to the December and June Fires. Barshick Dep., Oct. 23, 2020, 125:7-126:6 (attached as</p>

		Ex. 29) (Mon Valley Works General Manager Kurt Barshick confirming that nothing prevented modernizing the detection systems before 2019 and that the vibration detection technology already existed).
33.	<p>Many of these projects were not directly related to either the cause of or the damage resulting from the December Incident, but instead were made while the Nos. 2 and 5 Control Rooms—which normally operate constantly—were inoperable, which made it an opportune time to make other improvements in these areas. (Ex. 2, Rhoads Dep. at 84:8-86:4.) Examples of such projects include: replacing sections of cooling tower water piping; improving gas piping leaving No. 2 Control Room; replacing the distributor control system at No. 2 Control Room; replacing a bank of spiral heat exchangers for the Superstill at No. 1 Control Room; and replacing sections of piping at No. 5 Control Room. (Id. at 85:10-86:4.) Overall, U.S. Steel spent at least \$17.5 million to improve, repair, and upgrade its facilities following the December and June Incidents, not including the increased operating costs that resulted from these projects. (See Ex. 22.) And no incidents similar to the December or June Incidents have occurred in the intervening two years.</p>	<p>Disputed in part and immaterial.</p> <p>Plaintiffs do not dispute U.S. Steel made or has stated its intention to make the identified repairs.</p> <p>Plaintiffs dispute any implication that the listed projects were not necessary for compliance with the permit conditions at issue in this case, even if they were not directly related to the December Fire. For example, replacement of cooling tower water piping was necessary for continued operation of the Control Rooms: sections were rotted “coke can thin” and on the verge of failing, and their failure would have caused the shutdown of the Nos. 1, 2, and 5 Control Rooms. Ex. 29, Barshick Dep. 127:7-128:9; Supplemental Expert Report of Ranajit Sahu, Dec. 10, 2020 (“Supp. Sahu Report”) at 8 (attached as Ex. 30) (“but for the inspection and repairs done in the aftermath of the 2018 fire, this condition might itself have soon caused a failure of the Clairton pollution control system”); <i>see also id.</i> at 18-19 (distributor control system “obsolete” and difficult to maintain, and loss of system “would force the plant to bypass the No. 2 and No. 5 Control Rooms”).</p>
34.	<p>Plaintiffs contend that U. S. Steel violated its air permits by using unprocessed COG for approximately four months while the No. 2 and No. 5 Control Rooms were offline following the December Incident. (E.g., NGO Compl., ¶ 4; Answer to NGO Compl, ¶ 4; ACHD Compl., ¶ 38; Answer to ACHD Compl, ¶ 38.) Plaintiffs also allege U. S. Steel violated its permits on the day of the June Incident. (See NGO Plaintiffs’ Responses to Interrogatory No. 1 in U. S. Steel’s First Set of Interrogatories (“NGO Plaintiffs’ Responses to U. S. Steel’s First Set of Interrogatories”) (attached as Exhibit 23).)</p>	Undisputed.

35.	As a result of these alleged permit violations, Plaintiffs request, among other things, that the Court assess a civil penalty and enter injunctive relief against U. S. Steel. (NGO Compl., Prayer for Relief, ¶¶ b-e; ACHD Compl., Prayer for Relief, ¶¶ A-C.)	Undisputed.
36.	The parties have engaged in extensive discovery over the past 22 months. Plaintiffs and their experts participated in a site inspection of the Clairton Plant on November 14, 2019. (See U. S. Steel’s Response to Plaintiffs’ Rule 34(a)(2) Request to Inspect Defendant’s Clairton Coke Works and Irvin Plant (attached as Exhibit 24).) The parties have exchanged nearly 100,000 documents totaling over 2.1 million pages, multiple rounds of written discovery requests and responses, and participated in thirty-three depositions. In addition, Plaintiffs have produced expert reports from six experts, two of whom claim to be experts in mechanical engineering. Fact and expert discovery are now closed.	Admitted but immaterial: evidence regarding the scope of discovery conducted in this case is irrelevant and not material to the issues presented in U.S. Steel’s motion. Fed. R. Evid. 401, 402.
37.	Members of the NGO Plaintiffs who live near one of the U. S. Steel plants in the Mon Valley Works allege that, as a result of the December Incident, they experienced various health issues and inconveniences shortly after the December Incident, including migraine headaches, burning eyes, runny nose, and respiratory issues such as trouble breathing. (Decl. of Edith Abeyta, ¶¶ 1, 5-6, 8 (attached as Exhibit 25); Decl. of David Meckel, ¶¶ 1, 5-7, 9 (attached as Exhibit 26); Decl. of Cindy Meckel, ¶¶ 1, 4-6 (attached as Exhibit 27); Decl. of Johnie Perryman, ¶¶ 1, 3-5 (attached as Exhibit 28); Decl. of Jonathan A. Reyes, ¶¶ 1, 8-11 (attached as Exhibit 29); Decl. of Art Thomas, ¶¶ 1, 6-9 (attached as Exhibit 30).)	Undisputed, with the clarification that U.S. Steel’s summary of health issues and “inconveniences” experienced after the December Fire is incomplete. <i>See, e.g.</i> , Pls.’ SUMF at ¶ 173 (Johnie Perryman wore a painter’s mask in his home and purchased air purifiers); ¶ 185 (David Meckel experienced sharp headaches when he stepped outside to walk his dog, which he had not previously experienced); ¶ 187 (flares at Irvin ran non-stop and lit up the night sky outside David and Cindy Meckel’s home); ¶ 211 (haze over Art Thomas’ neighborhood caused the lights on his street to look blurry).
38.	These individuals also reported a rotten egg smell from the Clairton, Edgar Thompson, and Irvin plants was stronger than usual. (Ex. 25, ¶¶ 5-6, 8; Ex. 26, ¶¶ 5-7; Ex. 27, ¶¶ 4-6; Ex. 28, ¶¶ 3-6; Ex. 29, ¶¶ 9-10; Ex. 30, ¶¶ 6-7.)	Undisputed, and Plaintiffs add that David Meckel described the smell as “rotten eggs and cat urine,” Pls.’ SUMF at ¶ 183, and Johnie Perryman also smelled benzene, <i>id.</i> at ¶ 169.
39.	Each of these members declared that the alleged health issues and increase in a rotten egg smell that they attributed to the December Incident subsided by May 2019 after the pollution controls were repaired at the Clairton Plant. (See Ex. 25, ¶ 8; Ex. 26, ¶¶ 7, 9; Ex. 27, ¶ 8; Ex. 28, ¶ 7; Ex. 29, ¶ 12; Ex. 30, ¶ 8.)	Undisputed, with the clarification that, according to the testimony of Plaintiffs’ members, “subsided” means that they continued to experience the health effects, inconveniences, and odors they associate with “normal” emissions from the Mon Valley Works plants. <i>See, e.g.</i> , Pls.’ SUMF at ¶ 161 (Edith Abeyta experiences

		<p>burning eyes and a runny nose throughout the year); ¶ 179 (David Meckel experiences stinging eyes and a bad taste in his mouth as a result of air pollution emitted by the Mon Valley Works); ¶ 188 (soot enters Cindy Meckel’s house in the summer, and she can write her name in the dust on the furniture); ¶ 197 (Jonathan Reyes can usually smell a sulfurous odor of rotten eggs coming from the Edgar Thomson plant from his front porch); ¶¶ 209-10 (Art Thomas can see smoke and smog emitted by the Clairton plant from his house, and even though he feels “somewhat ‘nose blind’” to the smells from the plant, he finds that the smell hits him when he comes home from out of town).</p> <p>Plaintiffs add that Cindy Meckel’s asthma immediately worsened when she first returned home to Glassport from out of town, shortly after the December Fire, Pls.’ SUMF at ¶¶ 189-90, and that her coughing, wheezing, and use of a rescue inhaler temporarily stopped during a trip to Florida in late February 2019, <i>id.</i> at ¶ 191.</p>
40.	Plaintiffs did not move this Court for any preliminary injunctive relief in the more than two years that this lawsuit has been pending and thus have not asked the Court to alter U. S. Steel’s operations at its Mon Valley Works facilities in any way during the intervening 2½ years since the December Incident.	Not disputed but immaterial.
41.	Plaintiffs instead ask the Court to enter two forms of permanent injunctive relief. (See NGO Compl., Relief Requested, ¶¶ (b)-(d); ACHD Compl., Prayer for Relief, ¶¶ (A), (B).)	<p>Disputed.</p> <p>Plaintiffs object to the use of the term “instead” as improperly argumentative, since it implies that preliminary injunctive relief, unilaterally raised by Defendant in CSMF ¶ 40, would supplant Plaintiffs’ requested injunctive relief. <i>See, e.g., Mosley v. City of Pittsburgh Public School District</i>, 2009 WL 10728611 at *5 (W.D. Pa 2009) (comments which are argumentative or opinion-based should be set forth in the parties’ briefs, not in the statement of fact).</p> <p>Plaintiffs dispute U.S. Steel’s assertion because it relies on Plaintiffs’ initial pleadings, which have been extensively</p>

		supplemented following discovery and through the reports and testimony of Plaintiffs' experts. <i>See</i> RCS ¶¶ 42, 44.
42.	<p>Plaintiffs appear to want the Court to order U. S. Steel to make unspecified changes to its equipment, maintenance programs or plant operations. Early in the litigation, Plaintiffs generally described the results they purportedly want, but did not identify any specific measures that they are requesting the Court to require U. S. Steel to do to achieve the results. Plaintiffs asked the Court to require U. S. Steel to employ unspecified measures to:</p> <ul style="list-style-type: none"> - “prevent unauthorized combustion of COG as fuel or in flares when pollution controls are inoperable.” (NGO Compl., Relief Requested, ¶ (d)); - “hot idle all coke batteries at the Clairton Plant within 30 days. (ACHD’s Responses to U. S. Steel’s First Set of Interrogatories, at No. 4) (attached as Exhibit 31); - address the root causes of the December Incident and other recent fires and breakdowns that have caused the alleged permit violations at issue. (Ex. 23, NGO Plaintiffs’ Responses to U. S. Steel’s First Set of Interrogatories, at No. 4); - address the design features of the Clairton Plant that render pollutant removal systems inoperable downstream of a breakdown location and require U. S. Steel to continue operating its coke batteries and generating COG that cannot be treated. (Id.); and - reduce the amount of COG produced when pollutant removal systems are inoperable, and to reduce the amount of time that it continues to make coke (and generate COG) once pollutant removal systems have been rendered inoperable. (Id.) 	<p>Disputed in part.</p> <p>Plaintiffs object to U.S. Steel’s use of the terms “appear,” “generally,” and “purportedly” as improperly argumentative. <i>See, e.g., Mosley v. City of Pittsburgh Public School District</i>, 2009 WL 10728611 at *5 (W.D. Pa 2009) (comments which are argumentative or opinion-based should be set forth in the parties’ briefs, not in the statement of fact).</p> <p>Plaintiffs add that ACHD’s Responses to U.S. Steel’s First Set of Interrogatories were issued on February 28, 2020, which is not apparent because U.S. Steel did not include the signature page and/or the certificate of service. <i>See</i> ACHD’s Resps. to U.S. Steel’s First Set of Interrog. (“ACHD 1st Interrog. Resps.”) at 20-21 (excerpts attached as Ex. 31).</p> <p>Plaintiffs do not dispute they want the Court to order U.S. Steel to make changes to its equipment, maintenance programs and plant operations. Plaintiffs dispute U.S. Steel’s characterization of these changes and the measures to achieve them as “unspecified” because (1) the materials cited here by U.S. Steel provide more detail than it acknowledges, <i>see below</i>, and (2) Plaintiffs’ engineering experts, Dr. Ranajit Sahu and Michael Plunkett, have each issued reports and testified regarding measures U.S. Steel should employ to achieve the specified results, <i>see</i> RCS ¶ 44.</p> <p>Plaintiffs dispute the first bulleted point because U.S. Steel omits the following underlined language from the cited request for relief in Group Plaintiffs’ Complaint: “<u>Order Defendant to develop and implement a contingency plan to prevent unauthorized combustion of COG as fuel or in flares when pollution controls are inoperable.</u>” ECF 1, Relief Requested, ¶ d.</p>

Plaintiffs dispute the second bulleted point because “hot idle all coke batteries at the Clairton Plant within 30 days” does not appear in the cited materials (despite being put in quotes), and U.S. Steel’s characterization directly conflicts with ACHD’s actual interrogatory response: “The Department seeks U.S. Steel to develop and implement a plan for hot idling of all operational batteries situated at its Clairton Coke plant and for those batteries to be placed into hot idle no later than 30 days from any incident or occasion in which coke oven gas is not being desulfurized or 30 days from the date of issuance of any enforcement order issued by the Allegheny County Health Department requiring the hot idling of any, all or some of the coke batteries situated at the Clairton Coke Works.” ECF No. 93-31 at 19.

Plaintiffs dispute the third bulleted point because U.S. Steel omits the following underlined language from the cited interrogatory response: “USS must be ordered to address the root causes of the December 24, 2018 fire and other recent fires and breakdowns that have caused the permit violations at issue: the crumbling infrastructure and sub-par maintenance that create the likelihood of major fires and other equipment breakdowns in Control Rooms 1, 2 and 5 (the areas of Clairton Works that house processes that remove pollutants from coke oven gas).” ECF No. 93-23 at No. 4.

Plaintiffs do not dispute the fourth bulleted point.

Plaintiffs dispute the fifth bulleted point because U.S. Steel omits the following underlined language from the cited interrogatory response: “USS must be ordered to implement mitigation measures to reduce the amount of COG produced when pollutant removal systems are inoperable, and to reduce the amount of time that it continues to make coke (and generate COG) once pollutant removal systems have been rendered inoperable.” *Id.*

43.	<p>After 22 months of discovery, including detailed discovery involving the projects and improvements U. S. Steel completed following the December Incident, Plaintiffs have still not identified any specific measures. They admitted in discovery responses that they had “not yet developed more specific positions on the measures just described,” nor did they rule out seeking “additional or more detailed injunctive relief.” (Ex. 23, NGO Plaintiffs’ Responses to U. S. Steel’s First Set of Interrogatories, at No. 4; see also Ex. 31, ACHD’s Responses to U. S. Steel’s First Set of Interrogatories, at No. 4.)</p>	<p>Disputed.</p> <p>Plaintiffs object to U.S. Steel’s reliance on ECF No. 93-23 and ECF No. 93-31, discovery responses issued on February 28, 2020, ECF 93-23 at 14; Ex. 31, ACHD 1st Interrog. Resps. at 20-21, as support for its claim that “[a]fter 22 months of discovery, including detailed discovery involving the projects and improvements U.S. Steel completed following the December Incident, Plaintiffs <i>have still not identified</i> any specific measures” (emphasis added). First, these discovery responses were issued approximately 6 months after discovery opened in August 2019. Second, they were issued prior to U.S. Steel’s production of the “detailed discovery involving projects and improvements U.S. Steel completed following the December Incident” on August 26, 2020, U.S. Steel’s Resps. to Pls.’ Third Set of Interrogs. (“USS 3rd Interrog. Resps.”) at 5-8 (excerpts attached as Ex. 32). <i>See</i> SUMF ¶ 42 (U.S. Steel notes that the referenced discovery responses from Plaintiffs were issued “[e]arly in litigation”). Third, these responses stated that they would be supplemented through expert disclosures, and subsequent expert reports provided additional details regarding the injunctive relief sought.</p> <p>Plaintiffs dispute U.S. Steel’s claim that “Plaintiffs have still not identified any specific measures.” First, “[e]arly in the litigation,” CSMF ¶ 42, Plaintiffs identified measures to mitigate violations from future breakdowns, <i>see</i> RCS ¶ 42 (e.g., “develop and implement a plan for hot idling of all operational batteries situated at the Clairton Coke plant”). Second, Plaintiffs’ engineering experts Dr. Sahu and Mr. Plunkett issued reports and testified regarding specific measures U.S. Steel should employ to avoid breakdowns and achieve sustained compliance with the permit requirements at issue, <i>see</i> RCS ¶ 44.</p>
44.	<p>Despite the extensive discovery in this case, Plaintiffs’ experts have not offered an opinion on what changes need to be made to U. S.</p>	<p>Disputed.</p>

<p>Steel's equipment, maintenance programs, or plant operations, including how to achieve the general relief Plaintiffs identified at the outset of the litigation. See supra, ¶ 35.</p>	<p>Plaintiffs object on the grounds that U.S. Steel cites only to the prayers for relief in Plaintiffs' and Plaintiff-Intervenor's Complaints, which cannot be presented in a form that would be admissible in evidence. Fed. R. Civ. P. 56(c)(2).</p> <p>Plaintiffs object to U.S. Steel's use of the terms "despite" and "general" ("the general relief Plaintiffs identified at the outset of litigation") as improperly argumentative, <i>see, e.g., Mosley v. City of Pittsburgh Public School District</i>, 2009 WL 10728611 at *5 (W.D. Pa 2009) (comments which are argumentative or opinion-based should be set forth in the parties' briefs, not in the statement of fact), and dispute Defendant's characterization of the relief requested at the outset of litigation as insufficiently specific for that stage in the litigation, <i>see</i> RCS ¶ 42.</p> <p>Plaintiffs dispute any contention that Plaintiffs' experts have "not offered an opinion on what changes need to be made to U.S. Steel's equipment, maintenance programs and plant operations, including how to achieve the general relief Plaintiffs identified at the outset of the litigation," as follows:</p> <p>Plaintiffs' expert Dr. Sahu reviewed "documents and other information relating to the U.S. Steel facilities, other authoritative sources and reference materials," toured the relevant areas of the Clairton and Irvin plants in November, 2019, as part of this litigation, and further relied on his "education and extensive experience as a consultant and practicing engineer." Ex. 2, Sahu Report at 2. Following this review, he determined "[t]he Clairton plant is a very old facility that is forced to operate with little to no margin for error" and "presents a constant air pollution threat to the community. <i>Id.</i> He cited, among other things, (a) the age, poor maintenance, and history of breakdowns at the plant, and (b) "numerous bottlenecks" and "inadequate redundancy of critical equipment" in the systems for treating coke oven gas, noting "a problem at any point in the process can render all downstream processes inoperable." <i>Id.</i></p>
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Dr. Sahu identified 35 corrective measures which “would have been necessary to avoid the specific causes of the December 2018 and June 2019 fires (and resultant outages of pollution control systems) *and* those which are necessary to rectify other conditions that, if allowed to persist, *are likely to cause breakdowns that can result in outages of the pollution control systems...*”. Ex. 30, Supp. Sahu Report at 23-24 (emphasis added).

To fully address U.S. Steel’s issues with equipment, maintenance programs, and plant operations, and to achieve sustained compliance with U.S. Steel’s Clean Air Act permits that Plaintiffs seek, *see* RCS ¶ 42, Dr. Sahu further opines that two separate third-party audits need to be conducted (whether commissioned by U.S. Steel or ordered by the Court):

- (1) An independent third-party audit of the Clairton Control Rooms, “a first, necessary step” to enable more consistent compliance with the requirements of its Clean Air Act Permits. Ex. 2, Sahu Report at 32. This audit is to include (a) a thorough assessment of the baseline condition of all equipment, and (b) a thorough assessment of U.S. Steel’s maintenance program as a whole, including staffing, monitoring and testing equipment, available supplies for replacement and repair, and budgeting. *See Id.* The audit would be conducted by a team of people with the requisite subject matter expertise. *See* Ex. 1, Sahu Dep. 132:25-134:2,
- (2) An independent third-party engineering study, to present options for addressing the most serious design flaws in the Clairton pollution control systems. Ex. 2, Sahu Report at 32-33. Such a study should include (a) an evaluation of the need for redundant systems in the byproducts recovery process; (b) an evaluation of options for enhanced or expedited procedures for putting coke ovens on hot idle, or other methods to very rapidly reduce or eliminate coke oven gas production; and (c) an evaluation of options for design and installation of a coke oven gas recovery system to prevent flaring of untreated coke oven gas when the Control Rooms are inoperable. *Id.*

		<p>Specifically as to fire prevention systems, Plaintiffs' expert Michael Plunket recommended that U.S. Steel perform annual inspection of deluge piping and supports and add a protective shield to the lube oil piping for all compressors. Expert Report of Michael Plunkett, July 28, 2020 ("Plunkett Report") at 9 ¶ 1-2, 4 (attached as Ex. 33). U.S. Steel has not implemented these measures. Ex. 28, Traubert Dep. 102:2-5 (as to protective shielding), 184:5-185:20 (referencing arrangement to perform ceiling-level inspections every <i>five</i> years).</p>
45.	<p>Notwithstanding that fact and expert discovery are closed, Plaintiffs' experts defer to other, unidentified experts as to what should be done. (Ex. 31, ACHD's Responses to U. S. Steel's First Set of Interrogatories, at No. 4; Transcript of 1/14/2021 Deposition of Dr. Ranajit Sahu, at 137:2-8 (attached as Exhibit 32); 8/31/2020 Expert Report of Veronica Root Martinez, at pp. 10-13 ("Martinez Report") (attached as Exhibit 33); see also 11/30/2020 Supplemental Expert Report of Veronica Root Martinez ("Supplemental Martinez Report") (attached as Exhibit 34).)</p>	<p>Disputed in part.</p> <p>Plaintiffs do not dispute that fact and expert discovery are closed. Plaintiffs' dispute U.S. Steel's description of a court-appointed monitor, and any individuals or entities such a monitor may designate to audit or investigate the condition, maintenance, design, and/or operation of U.S. Steel's Clairton plant, <i>see</i> RCS ¶ 44, as an "unidentified expert," which conflates Plaintiffs' obligation to disclose experts under applicable trial preparation deadlines with the Court's ability to appoint a monitor, either pursuant to its common law authority or under Fed. R. Civ. P. 53(a)(1)(C), <i>see</i> Expert Report of Veronica Root Martinez, July 31, 2020 ("Root Martinez Report") at 5 § (iv)-(v) (attached as Ex. 34).</p> <p>As described above, RCS ¶ 44, Plaintiffs seek "robust oversight by a third-party monitor in order to address maintenance issues at the plant and establish a robust preventative maintenance program," Ex. 2, Sahu Report at 20. Plaintiffs' expert on court-appointed monitorships, Professor Veronica Root Martinez, opined that, if the Court accepts the conclusions of Dr. Sahu and Mr. Plunkett, the appointment of a monitor would "be beneficial to ensure U.S. Steel engages in necessary remediation efforts and implements an effective compliance program designed to prevent similar future violations of legal and regulatory requirements." Ex. 34, Root Martinez Report at 10 (e).</p>

46.	The unrelated December and June Incidents occurred in discrete areas of the No. 1 and 2 Control Rooms at the Clairton Plant, the largest coke plant in North America with a footprint spanning more than three miles along the Monongahela River. See <i>supra</i> ¶¶ 3, 15-17, 30; (PECAC 0018768, Vol. 4, 12/6/2018 Hearing Transcript at 813:10-12 (attached as Exhibit 35).)	Denied in part. Plaintiffs object to U.S. Steel’s description of the December and June Incidents as “unrelated” because it is not supported by the cited materials, LCvR 56.B.1, and Plaintiffs dispute any characterization of the events as “unrelated” to the extent they both resulted from U.S. Steel’s maintenance and operational failures, <i>see, e.g.</i> , RCS ¶ 30.
47.	Plaintiffs, however, want the Court to require U. S. Steel to undergo a third-party engineering audit of the “entire Clairton Plant” by an unidentified expert approved by the NGO Plaintiffs and ACHD to identify remedial, supplemental, or redundant measures that can be taken to ensure that COG will continue to be desulfurized in the event of an emergency or planned outage of any portion of the by-products operations. (Ex. 31, ACHD’s Responses to U. S. Steel’s First Set of Interrogatories, at No. 4; Ex. 32, Dr. Sahu Dep. at 80:24-81:4.)	Disputed in part. Plaintiffs do not dispute that they seek the appointment of a monitor to, among other things, oversee a third-party engineering audit. Plaintiffs dispute the implication that they seek an unlimited audit of “the entire Clairton Plant”; the full text of ACHD’s interrogatory response limits the investigation to measures “to ensure that COG will continue to be desulfurized in the event of an emergency or planned outage of any portion of the by-products operations.” Plaintiffs also dispute U.S. Steel’s description of this court-appointed special monitor as an “unidentified expert.” <i>See</i> RCS ¶ 45.
48.	U. S. Steel would then be required to implement all recommendations of the hypothetical auditor within 90 days. (Ex. 31, ACHD’s Responses to U. S. Steel’s First Set of Interrogatories, at No. 4.)	Disputed. U.S. Steel fails to disclose that ACHD reserved “the right to supplement or amend its demand for additional or more detailed injunctive relief at any time following consideration of all evidence adduced before, during and after trial.” ECF 93-31, Response No. 4 at (d). Plaintiffs dispute U.S. Steel’s representation that it “would then be required to implement all recommendations of the hypothetical

		<p>auditor within 90 days,” which is directly contradicted by the full text of the materials (the <u>underlined portions</u> were excised by U.S. Steel):</p> <p>“No later than 90 days after receipt [of the third-party engineering auditor’s report], US Steel shall implement all recommendations enumerated in the report <u>so long as said recommendations do not exceed three (3%) of US Steel’s net revenue for the year in which the audit is complete. In the event said recommendations exceed three (3%) of US Steel’s net revenue, US Steel shall develop a plan whereby recommendations will be implemented at a cost of three (3%) of US Steel’s net revenue every year until such time as recommendations are complete.”</u> <i>Id.</i></p> <p>Plaintiffs clarify that the Court, not ACHD, determines the nature and scope of any injunctive relief. Ex. 34, Root Martinez Report at 5 § (iv)-(v) (summarizing Court’s authority to appoint monitor under common law and Fed. R. Civ. P. 53).</p>
49.	Other than giving an unidentified auditor unfettered discretion, Plaintiffs have not offered any guidance as to a process for deciding whether proposed changes to the Clairton Plant’s equipment, maintenance programs, or plant operations must be implemented, irrespective of the feasibility, safety risks, and costs of any identified projects. (See <i>id.</i>)	<p>Disputed.</p> <p>The materials cited in support of this statement set forth an implementation framework that explicitly considers the feasibility and costs of remediation projects, materials. <i>See</i> RCS ¶ 48.</p>
50.	The NGO Plaintiffs also want the Court to take the unprecedented step of appointing another unidentified expert “monitor” to oversee operations at the Clairton Plant, including the safety of all workers, a preventative maintenance program, and to ensure that U. S. Steel complies with unspecified environmental regulations, requirements, and industry standards. (Ex. 32, Dr. Sahu Dep. at 137:2-8; Ex. 33, Martinez Report, at pp. 10-13; see also Ex. 34, Supplemental Martinez Report.)	<p>Disputed in part.</p> <p>Plaintiffs dispute U.S. Steel’s description of a court-appointed monitor as an “unidentified expert.” <i>See</i> RCS ¶ 45.</p> <p>Plaintiffs dispute that court-appointed monitors are “unprecedented.” That characterization is contradicted by the referenced materials. <i>See</i> ECF No. 93-32 at 137:9-21 (Dr. Sahu himself served as a third party monitor to oversee operations and maintenance at a plant and testified “it’s pretty common”); Ex. 34,</p>

		<p>Root Martinez Report at 10 § (iv) (providing examples of monitors appointed to oversee environmental compliance).</p> <p>Plaintiffs do not dispute that they seek a monitor to oversee remediation efforts and implementation of an effective compliance program. Plaintiffs dispute that they seek a monitor to broadly “oversee operations ... including the safety of all workers,” or to ensure compliance with “unspecified” environmental regulations and requirements. Ex. 34, Root Martinez Report at 10 (e) (purpose is to prevent “similar future violations of legal and regulatory requirements”).</p>
51.	<p>According to Plaintiffs’ proffered expert on the appointment of monitors, who has no experience with CAA compliance programs, coke plants or steelmaking operations, no federal court has ever appointed an independent monitor as part of injunctive relief in any environmental citizens’ suit, including under the CAA. (Transcript of 12/22/2020 Deposition of Veronica Root Martinez at 30:14-31:18, 33:6-14, 39:3-9 (attached as Exhibit 36).)</p>	<p>Disputed and immaterial.</p> <p>Professor Martinez’s experience with “CAA compliance programs, coke plants or steelmaking operations” is irrelevant and immaterial to her proffered testimony regarding the (1) the circumstances under which the appointment of a monitor by a federal court has been successfully used as part of injunctive relief, and (2) whether the appointment of a monitor would be beneficial in this particular case, Ex. 34, Root Martinez Report at 2; <i>see generally</i> Pls.’ Obj. to Mot. to Exclude Ops. and Test. of Veronica Root Martinez.</p> <p>Plaintiffs dispute that Professor Martinez testified that “no federal court has ever appointed an independent monitor as part of injunctive relief in any environmental citizens suit;” rather, when asked whether she was aware of a case (a) initiated by a citizens group, (b) under the Clean Air Act, (c) in which an independent monitor was appointed by a federal court, ECF 93-36 at 33:6–14, she testified “I can’t name that sort of case right now,” Root Martinez Dep., Dec. 12, 2020, 33:3–34:1 (attached as Ex. 35); <i>see also id.</i> at 32:12–33:2 (omitted by U.S. Steel from ECF No. 93-96).</p>

52.	And in his more than thirty years of experience, the NGO Plaintiffs' engineering expert has never previously opined that a court should appoint a third-party auditor or monitor to oversee and address maintenance issues at a plant. (Ex. 32, Dr. Sahu Dep. at 137:2-14.)	Not disputed but immaterial. Plaintiffs do not dispute that Dr. Sahu has not previously offered an expert opinion that a court should appoint a third-party auditor or monitor to oversee and address maintenance issues at a facility. Plaintiffs add that Dr. Sahu personally served on a team tasked with overseeing and addressing maintenance issues "as a post-accident scenario," and testified that "it's pretty common." ECF No. 93-32 at 137:9-21.
53.	Plaintiffs also want the Court to order U. S. Steel to comply with the CAA and the operating permits for its Mon Valley Works facilities. (NGO Compl., ¶ 345 & Relief Requested, ¶¶ (b)-(c); ACHD Compl., Prayer for Relief, ¶¶ (A)-(B).)	Disputed in part. Plaintiffs do not dispute that they seek U.S. Steel's compliance with the CAA and the operating permits for its Mon Valley Works facilities. Plaintiffs dispute any implication that they seek a broad "obey the law" injunction, and clarify that they seek an order directing U.S. Steel not to repeat violations of the specific provisions of the CAA and operating permits at issue in this lawsuit. <i>See McLendon v. Cont'l Can Co.</i> , 908 F.2d 1171, 1182 (3d Cir. 1990) ("This is not an 'obey the law' injunction. It is a 'do not use the [liability avoidance program]' injunction"); <i>Zenith Radio Corp. v. Hazeltine Rsch., Inc.</i> , 395 U.S. 100, 132 (1969) ("In exercising its equitable jurisdiction, '(a) federal court has broad power to restrain acts which are of the same type or class as unlawful acts which the court has found to have been committed or whose commission in the future unless enjoined, may fairly be anticipated from the defendant's conduct in the past").
54.		Former ACHD Deputy Director Jim Kelly testified that he is not aware of any other instance in which ACHD issued a formal health alert warning residents to limit their outdoor activities, and definitively stated it has not occurred since he joined ACHD in

		2014. Ex. 15, 2d Kelly Dep. 374:5-10. Prior to joining ACHD, Mr. Kelly spent 22 years with the Environmental Protection Division as part of the Department of Natural Resources for the State of Georgia, Ex. 4, 1st Kelly Dep. 14:9-17, and testified in that time “the 10,000 plus facilities permitted in the State of Georgia” never had a catastrophic event that resulted in a similar warning, Ex. 15, 2d Kelly Dep. 354:7-17.
55.		Per emissions measurements first submitted by U.S. Steel to ACHD on February 4, 2019, its emissions of SO ₂ increased from approximately one ton a day on December 20, 2018, to approximately 45 tons a day on December 26, 2018, and as of January 29, 2019, U.S. Steel was emitting 37 tons of SO ₂ a day. Ex. 5, DeLuca Dep. 83:17-84:19; Email from U.S. Steel Environmental Manager Mike Dzurinko to ACHD, Feb. 4, 2019 at ACHD1586191-92 (attached as Ex. 36); <i>see</i> Ex. 15, 2d Kelly Dep. 388:12-389:14 (discussing same emissions measurements, Mr. Kelly noted post-Fire emission were “orders of magnitude more” than pre-Fire emissions, describing the increase as “massive” and “absurd,” and noting “people are breathing those emissions”).
56.		On February 1, 2019, more than one month after the December Fire, Clairton Plant Manager Michael Rhoads communicated to U.S. Steel personnel that the Nos. 2 and 5 Control Rooms could be expected to return to operation on or before May 15, 2019. Email from U.S. Steel Clairton Plant Manager Michael Rhoads, Feb. 1, 2019 at USSP014276 (attached as Ex. 37).
57.		For the three complete months of the outage period, January through March of 2019, U.S. Steel reduced coke production by 15%. <i>See</i> USSP007733-34 (attached as Ex. 38). Plaintiffs were able to calculate this number using data provided by U.S. Steel which compares the company’s forecasted production to its actual

		production for December, 2018 through June, 2019. <i>Id.</i> Plaintiffs omitted December and April because although the Outage Period extended into those months, they also contained much longer periods of normal operations with operational pollution controls.
58.		Under an expedited schedule, U.S. Steel can begin hot idling batteries following 8 weeks of preparatory work. U.S. Steel’s 1st Interrog. Resps. at No. 4 (attached as Ex. 39) (for text of Plaintiffs’ request); Supp. Resp. from U.S. Steel Counsel Mark Dausch, Nov. 6, 2019 (attached as Ex. 40 (identifying six components of concurrent preparatory work required for U.S. Steel to begin the process of pushing coke ovens empty, the longest of which last “approximately 8 weeks”).
59.		Months after the December Fire and June Fire, U.S. Steel hot idled Battery 15 “because of the market conditions, less demand for coke....” Ex. 12, USS Dep. (Rhoads) at 68:4-18.
60.		During the COVID pandemic, U.S. Steel increased the coking times at all coke oven batteries at Clairton times to 36 hours. Ex. 12, USS Dep. (Rhoads) at 86:6-89:9.
61.		ACHD places its monitors based on air modeling simulations, and inputs (stack parameters, stack heights, stack diameters, volume of flow, speed of flow, types of emissions) allow the model to “demonstrate how those emissions act in the localized environment.” Ex. 4, 1st Kelly Dep. 74:20-75:15. During the post-Fire period, however, U.S. Steel redirected most of the untreated COG to be combusted at the Irvin Plant flares, but the existing ACHD monitors were not sited to capture emissions from that location. <i>Id.</i> (after the December Fire, “uncontrolled emissions [were] shift[ed] to[] the flare, so the modeling results really won’t

		apply ... we [ACHD] no longer know that our monitors are located where they need to be to determine where the highest localized impacts of the SO ₂ emissions [were].”); Ex. 15, 2d Kelly Dep. 323:13-23.
62.		More generally, (1) stationary monitors only capture the peak concentration of a pollutant plume coming from an industrial source if the wind is blowing in the direction of the monitor, Ex. 23, 2d Maranche Dep. 299:12-20, (2) emissions shift over the course of minutes and hours, so a pollutant plume could miss a monitor by feet or a mile, and it will not be measured, <i>see</i> Ex. 3, Graham Dep. 82:10-25, <i>see also</i> Ex. 21, Long Dep 123:18-124:2, 125:2-9, and (3) from a public health perspective, concentrations below the 75 ppb SO ₂ NAAQS limit that are measured at a stationary monitor can still be a concern because monitors read concentrations at only one location, and “you don’t know if it’s higher nearby.” Ex. 18, 2d Kelly Dep. 298:22-299:8.
63.		As a result of new emission limits imposed on U.S. Steel’s Mon Valley Works facilities in 2018, ACHD anticipated that <i>no</i> exceedances of the SO ₂ NAAQS would occur. Ex. 15, 2d Kelly Dep. 345:15-346:15 (“...they were operating in a scenario that exceedances or violations of the NAAQS should not have been occurring.”), 347:2-12 (“...we were under a scenario where we shouldn’t be seeing those types of exceedances or violations even of the standard prior to 2018”); Maranche Dep., Jan. 13, 2021, (“1st Maranche Dep.”) 91:7-92:10 (attached as Ex. 41) (SIP modeling showed that under normal operating conditions maximum possible operating conditions at the Mon Valley Works would still achieve NAAQS attainment).
64.		Sulfur dioxide is a precursor to PM _{2.5} , and sulfur dioxide emissions are associated with higher levels of PM _{2.5} , because sulfur dioxide

		<p>forms into sulfates, and sulfates are a major component of airborne particulate matter. Expert Report of Deborah Gentile, July 31, 2020 (“Gentile Report”) at 4 (attached as Ex. 42) (sulfates are a typical major component of particulate matter, and “sulfates form from industrial emissions of sulfur dioxide (SO₂) into the ambient air.”); Expert Report of ACHD, Oct. 7, 2020 at 5 (attached as Ex. 43) (SO₂ is a precursor to PM_{2.5}, and “elevated SO₂ emissions...can be associated with higher PM_{2.5}, since SO₂ is a precursor to secondarily-formed sulfate (SO₄) and/or coincides with primary SO₄ emitted directly from sources.”).</p>
65.		<p>Epidemiological studies provide evidence for a causal relationship between exposure to PM_{2.5} and respiratory effects, cardiovascular effects, cancer, and mortality. Ex. 19, McCunney Dep. 132:18-133:5 (adopting conclusions of the Environmental Protection Agency). Health effects from exposure to PM_{2.5} occur “over the entire distributions of ambient PM_{2.5} evaluated” in epidemiological studies, and there is no known threshold below which it can be “concluded with confidence” that PM-associated health effects do not occur. <i>Id.</i> at 133:5-134:2.</p>
66.		<p>Research conducted by Plaintiffs’ public health expert, Dr. Deborah Gentile, found increases in asthma impacts following the December Fire. Ex. 42, Gentile Report at 40 (“My research team documented worsening asthma control in children from Clairton during the weeks following the December 24, 2018 Clairton Coke Works fire, during the time period when air pollution control equipment at Clairton Coke Works was not being operated.”), 41 (“These results show a near doubling of the number of adult Clairton residents seeking acute outpatient and emergency department care for worsening asthma after the Clairton Coke Works fire and during the subsequent shutdown of air pollution controls at the facility” and “these findings show acute worsening of asthma symptoms and</p>

		increased asthma medication use among adults following the Clairton Coke Works fire”).
67.		The Expert Report of Dr. Deborah Gentile includes a section entitled, “Specific Adverse Health Effects of PM Exposure,” Ex. 42, Gentile Report at 6, which includes an analysis of the relationship between short-term and long-term exposure to PM and overall mortality, <i>id.</i> at 6-7, cardiovascular disease, <i>id.</i> at 8-10, respiratory effects, <i>id.</i> at 11-14, cancer, <i>id.</i> at 14-15, and nervous system effects, <i>id.</i> at 15-16. <i>See id.</i> at 19 (studies show a linear relationship between long-term PM2.5 exposure and mortality, respiratory effects, and cardiovascular effects).
68.		<p>Thomas Traubert, an outside consultant hired by U.S. Steel to investigate the December Fire, Ex. 28, Traubert Dep. 93:9-16, was subsequently retained by U.S. Steel as an expert in this matter and testified to the following:</p> <ol style="list-style-type: none"> (1) A leak in the roof of No. 2 Control Room lasted long enough that a section of a quarter-inch-thick steel pipe fitting (a “reducing tee”) corroded entirely away, <i>id.</i> at 94:5-14; <i>see</i> RCS ¶ 69; (2) The corroded reducing tee gave way, allowing a section of fire protection piping to fall from the ceiling, Ex. 28, Traubert Dep. 94:15-17; (3) Other piping supports and hangers that could have prevented the piping from falling were also too deteriorated to prevent the fall, <i>id.</i> at 94:18-21; (4) A falling pipe severed a lube oil line for an axial compressor (number C-521), <i>id.</i> at 94:22-95:1; (5) Lube oil spurted out and caught fire when it contacted a high-temperature steam line, <i>id.</i> at 95:2-5; (6) Compressor C-521 failed to “trip” or shut down despite the loss of lube oil, because the trip mechanism was improperly designed, Ex. 28, Traubert Dep. 95:6-8; <i>see</i> RCS ¶ 70; (7) “Corrosion fatigue” had caused a pre-existing crack in a C-521

		<p>rotor shaft, Ex. 28, Traubert Dep. 95:9-21;</p> <p>(8) The crack in the rotor shaft had propagated 80% of the way through a cross-section of the shaft, <i>id.</i> at 95:22-96:1;</p> <p>(9) The loss of lube oil resulted in the cracked rotor shaft fracturing completely, <i>id.</i> at 96:2-9;</p> <p>(10) C-521 continued to operate following the fracture, which caused excessive vibration, <i>id.</i> at 96:10-15;</p> <p>(11) Excessive vibration loosened bolts that held together a flange on the coke oven gas discharge pipe leading from C-521, <i>id.</i> at 96:16-19;</p> <p>(12) The loosened bolts allowed the flange to separate, <i>id.</i> at 96:20-22;</p> <p>(13) Long-term corrosion caused a check valve in the discharge pipe to fail, <i>id.</i> at 96:23-97:1;</p> <p>(14) The failure of the corroded check valve allowed the backflow of coke oven gas out of the discharge pipe and into the No. 2 Control Room, <i>id.</i> at 97:2-5;</p> <p>(15) The coke oven gas released into the Control Room was ignited by the already burning lube oil fire, <i>id.</i> at 97:6-9.</p>
69.		Mr. Traubert testified that the degree of corrosion of the reducing tee fitting, referenced in RCS ¶ 69(1)-(2), occurred over a period of “years.” Ex. 28, Traubert Dep. 87:16 – 88:5.
70.		Mr. Traubert testified that the trip switch, referenced in RCS ¶ 69(6), failed to trigger because the wire that would carry the signal to stop operation was severed, so the signal did not reach the axial compressor; however, “typically” trip switches are designed to automatically shut down the machine if the signal wire (or power to it) is cut. Ex. 28, Traubert Dep. 112:21-114:7.
71.		In his Expert Report, under the heading “Recommendations Regarding Deficient Maintenance and Design,” Dr. Sahu stated: “Based on the evidence available to me at this time, as discussed

		<p>above, it is my opinion that US Steel’s maintenance and operation of the Clairton Control Room areas are substandard by any measure, including US Steel’s own stated goals (which Mr. Jeffrey has stated as achieving “best in class” status”) and reasonable industry standards of care – much less industry ‘best practice’ standards. This systemic failing interferes substantially with US Steel’s ability to comply with its Clean Air Act permits, as evidenced by the violations that are the subject of this lawsuit.” Ex. 2, Sahu Report at 32.</p>
72.		<p>The Supplemental Expert Report of Dr. Sahu includes (1) a section entitled, “Recently Reviewed Documents Confirm that US Steel Did Not and Does Not Have Adequate Knowledge About the Structural Integrity of Much of the Clairton Plant,” in which Dr. Sahu analyzes of third-party inspection reports of piping at the Clairton Facility and an email from Mon Valley Works General Manager Kurt Barshick, Ex. 30, Supp. Sahu Report at 3, <i>see generally</i> 3-8; (2) a section entitled, “US Steel’s Processes for Detecting and Responding to Hazards are Inadequate,” in which Dr. Sahu analyzes third-party risk inspection reports of Clairton, including actions taken by U.S. Steel in response to such reports and the nature and scope of the reports, <i>id.</i> at 9, <i>see generally</i> 9-20; (3) a section entitled, “U.S. Steel’s Safety and Maintenance Management Approach Was Top Heavy With Consultants and Jargon and Lacked Buy-In from Its Staff and Workers,” in which Dr. Sahu analyzes findings by consultants retained by U.S. Steel, <i>id.</i> at 20, <i>see generally</i> 20-23.</p>
73.		<p>In his Supplemental Expert Report, Dr. Sahu identified measures “necessary to rectify conditions that, if allowed to persist, are likely to cause breakdowns that can result in outages of the pollution control system at issue in this case.” Ex. 30, Supp. Sahu Report at 24. Of such measures, Dr. Sahu assumes U.S. Steel will take the following by January, 2022:</p>

		<p>(1) annual ceiling-level inspection of deluge piping and supports in the No. 2 Control Room, <i>id.</i>;</p> <p>(2) adding protective shielding to lube oil piping for all compressors, <i>id.</i>;</p> <p>(3) installation of 10 new axial compressors as part of the Axial Compressor Sparing project, Ex. 30, Supp. Sahu Report at 26. <i>See</i> Ex. 2, Sahu Report at 35 (explaining that January, 2022 is used as a “reasonable estimate” for projects that would be required to be made by court order or settlement agreement).</p>
74.		<p>In his Supplemental Report, Dr. Sahu identifies additional measures, <i>see</i> RCS ¶ 73, that were to be implemented by U.S. Steel in 2021, including:</p> <p>(1) inspection and replacement of check valves, Ex. 30, Supp. Sahu Report at 24;</p> <p>(2) installing 5KV switch gear in No. 1 Control Room, <i>id.</i> at 26, <i>see</i> RCS ¶ 32 (U.S. Steel’s electrical engineering expert testified that as of May 28, 2021, the new electrical switchgear had not yet been delivered and U.S. Steel is still using the switchgear that caused the June Fire);</p> <p>(3) Control Room 1 & 2 Automation Upgrade – New Distributed Control System, Ex. 30, Supp. Sahu Report at 24;</p> <p>(4) thermographic imaging of electrical breakers, transformers, and related equipment, <i>id.</i> at 27;</p> <p>(5) No. 2 Axi Compressor Building Automatic Sprinkler Protection, <i>id.</i> at 27;</p> <p>(6) No. 1 Axi Compressor Building Improvements, <i>id.</i>; <i>see generally id.</i> at 24-27 (table entitled “Cost of Specific Measures”).</p>
75.		<p>Former ACHD Deputy Director Jim Kelly toured the Clairton plant in 2017, and described it “as one of the most decrepit facilities I’ve ever seen in my nearly 30 years of work” and “an unusually decrepit facility,” Ex. 4, 1st Kelly Dep. 17:12-18:6, testifying there was “just</p>

		lots of rust” and noting “the poor conditions of a lot of the equipment there,” <i>id.</i> at 20:18-21:12.
76.		<p>In addition to the December Fire and June Fire, other fires and compressor failures have occurred at the Nos. 1, 2 and 5 Control Rooms at the Clairton plant, including:</p> <ul style="list-style-type: none"> • 1997: C-135 compressor failure (corrosion fatigue) and fire – Control Room 1; • 2009: Explosion and fire (welding incident) – Control Room 2; • 2015: C-630 compressor failure (fractured rotor shaft) and fire – Control Room 2; • 2018: Compressor trips and month-long desulf unit outage – Control Rooms 1 and 2; • 2019: Electrical fire – Control Room 1. <p>Ex. 2, Sahu Report at 18-19.</p>
77.		<p>In 2015, U.S. Steel retained Life Cycle Engineering to conduct a “Reliability-Centered Maintenance (RCM) Diagnostic” of the Clairton plant. “USS Mon Valley – Clairton Plant” PowerPoint Presentation, USSP0018897 at 1 (excerpts attached as Ex. 44) (2015 date established using document’s metadata). Life Cycle’s diagnostic included interviews with U.S. Steel personnel, and the following “Sound Bites” were presented to U.S. Steel:</p> <ul style="list-style-type: none"> • “We have lots of ‘temporary repairs’ that become permanent...we are not good at coming back and doing the repair right.” • “Production definitely rules the roost around here.” • “Everything is being run to failure.” • “Operators run equipment like they hi-jacked it.” • “The guys here want to do a good job but the bosses want them to hurry up to make more coke.” <p><i>Id.</i> at 2-3.</p>

78.		<p>Between 2016 and September 2018, U.S. Steel reduced the base maintenance staffing at the Mon Valley Works from 1,019 FTEs (Full Time Equivalents) to 691 FTEs. Rule 30(b)(6) Dep. of U.S. Steel, Mar. 5, 2021, Witness Mark Jeffrey, (“USS Dep. (Jeffrey)”) 195:24-197:4 (attached as Ex. 45); PowerPoint Slide titled “Mon Valley Works has already reduced base staffing to 2022 target of 697 FTEs, so opportunity for further staffing reductions does not currently exist,” McKinsey-USS-000404 (attached as Ex. 46).</p>
79.		<p>Maintenance spending per RAV – “Replacement Asset Value” – is a metric that measures maintenance spending by comparing the maintenance costs at a facility with the facility’s Replacement Asset Value. Ex. 45, USS Dep. (Jeffrey) 217:19-218:15; PowerPoint Slide titled “Maintenance Spending per RAV,” McKinsey-USS-003035 (attached as Ex. 47). In this context, maintenance costs are specifically limited to repair and maintenance costs: “parts and pieces and contractors.” Ex. 45, USS Dep. (Jeffrey) 214:16-215:3.</p>
80.		<p>Per U.S. Steel, facilities with “world class” maintenance programs are able to keep such maintenance costs to between 2 and 3 percent of the RAV of the facility. See Ex. 45, USS Dep. (Jeffrey) 217:19-218:15; Ex. 47, McKinsey-USS-003035. In 2017 and 2018, U.S. Steel spent below this “world class” threshold on the maintenance of the Clairton plant: it spent 1.81% of the RAV of Clairton on maintenance in 2017, and in December 2018, the month the December Fire occurred, U.S. Steel further reduced maintenance costs to 1.55% of the RAV of Clairton. Ex. 47, McKinsey-USS-003035.</p>

81.		<p>The General Manager of the Mon Valley Works testified that during his tenure “major equipment failures” -- defined as breakdowns with safety implications, environmental “potentials,” or that might halt production for significant periods of time – have occurred before scheduled repairs of the affected equipment could be completed. Ex. 29, Barshick Dep. 54:1-22. He testified that he is aware of situations in which a U.S. Steel employee informed a manager that there is a big maintenance problem. <i>Id.</i> at 163:19-164:3.</p>
82.		<p>An entity called Marsh Risk Consulting performs annual “Property Risk Evaluation Reports” of the Clairton facility, dating back to at least 2011. Ex. 30, Supp. Sahu Report at 9 (“Marsh first identified the lack of effectiveness and reliability of this system as a problem in 2011”). Dr. Sahu opined that “the reports themselves do not purport to be physical inspection reports,” “US Steel clearly does not act on the recommendations in these reports in a timely fashion,” and that each annual Marsh Report repeats “the same set of demonstrably false statements” regarding the risk for loss exposures faced by the Clairton plant. <i>Id.</i> at 13-14.</p>

83.		<p>In 2011, Marsh identified serious issues with the foam fire protection system at the Light Oil tank farm at the Clairton plant. Ex. 30, Supp. Sahu Report at 9 (“Marsh first identified the lack of effectiveness and reliability of this system as a problem in 2011,” citing the numbering system used in Marsh Reports). In 2019, Marsh stated “[t]he functionality and design of this system is in question due to several factors,” including “underground water main leaks,” “corroded above ground sprinkler system piping,” difficult instructions and operation of the manual operation of the foam system,” and opined that “given all these issues, <i>a complete redesign and upgrade of this system is warranted</i>. <i>Id.</i> at 10 (excerpting Marsh Report). Nearly verbatim warnings were provided in prior years. <i>Id.</i> at 11 (referencing 2015-2018 Marsh Reports).</p>
84.		<p>Marsh’s assessment of the Loss Expectancy from the failure of the Light Oil Tank Farm foam protection system includes \$8,000,000 in property damages and a 4-month “Business Interruption,” which Sr. Sahu opines “is similar to the interruption caused by the December 24, 2018 fire.” Ex. 30, Supp. Sahu Report at 10. The estimated cost for U.S. Steel to complete a redesign and upgrade of the system is \$3,500,000. <i>Id.</i> at 10.</p>
85.		<p>During repairs after the December Fire, U.S. Steel discovered that cooling tower water supply/return lines were rotted “coke can thin” and were on the verge of failing, which have itself shut down the No. 1, 2 and 5 Control Rooms. Ex. 29, Barshick Dep. 127:7-128:9; <i>see</i> Ex. 2, Sahu Report at 24 (noting “the imminent failures of these deteriorating components...were only discovered and averted because the December fire required significant inspection and repairs to the areas containing this equipment”).</p>

86.		<p>In 2020, a U.S. Steel contractor performed inspections of select piping systems in and around the Control Rooms at the Clairton plant. The contractor discovered the following “Severity Code 1” issues with piping in the No. 2 Control Room, which it defines as issues requiring immediate action, Ex. 30, Supp. Sahu Report at 3 § I.A:</p> <ul style="list-style-type: none"> • Piping for coke oven gas to the No. 1 Control Room that was “holed through from internally initiated corrosion.” <i>Id.</i> at 4 part (a). • Three gas leaks in an underfiring gas piping circuit, with an undetermined source. <i>Id.</i> at 4 part (b). • A ½” insulated pipe that had corroded through and fallen onto two other sections of pipe. <i>Id.</i> at 6 part (f). The contractor identified it as “a safety issue that should be removed as soon as possible” and notified U.S. Steel personnel at the time of finding. <i>Id.</i>
87.		<p>Photographs of piping in and around the No. 2 Control Room taken by System One in March, 2020 depict, <i>inter alia</i>, pipe sag between expansion joints (Photo No. 1), corrosion and deformation of pipe supports (Photo Nos. 3-4), pitting (Photo Nos. 5, 7), and the use of temporary supports (Photo No. 9). System One Report of Mar. 12, 2020 Inspection, USSP019123-27 (excerpts attached as Ex. 48). <i>See</i> Ex. 30, Supp. Sahu Report at 4 (“the accompanying photographs in the System One report are telling and should be reviewed in conjunction with the text”).</p>
88.	TOPIC: US Steel has not taken responsibility for the Fire	<p>When questioned about whether U.S. Steel had taken steps to determine whether or not the December Fire could have been prevented, Kurt Barshick, General Manager of the Mon Valley Works, testified that he was “not aware” of anyone at U.S. Steel taking such steps and that he did “not know why the steps were not taken to determine if it could have been prevented.” Ex. 29, Barshick Dep. 90:17-91:16.</p>

89.		<p>U.S. Steel issued a report entitled “Mon Valley Works Clairton Plant Operations and Environmental Report, 2019,” (“2019 Environmental Report”) (attached as Ex. 49). The 38-page document includes a “Message from the Plant Manager,” Michael Rhoads, <i>id.</i> at USSP019528, a page setting forth U.S. Steel’s “S.T.E.E.L. Principles,” <i>id.</i> at USSP019529 (“Trust > Our Commitment to Trust and Respect,” “Environment > Our Commitment to Environmentally Friendly Activities,” and “Ethical Behavior > Our Commitment to Ethical Business Practices”), a section entitled “Environmental Controls – Highlights,” <i>id.</i> at USSP019539, which includes three pages on the pollution control equipment in the Nos. 1, 2 and 5 Control Rooms, <i>id.</i> at USSP019543-45, and a seven-page section entitled “Environmental Performance – Air,” <i>id.</i> at USSP019548-54.</p>
90.		<p>U.S. Steel does not make any reference to the December 2018 Fire or the alleged violations of air pollution limits in its 2019 Environmental Report. <i>See generally</i> Ex. 49, 2019 Environmental Report. In the 2019 Environmental Report, U.S. Steel states “U.S. Steel’s Clairton Plant has maintained nearly 100% compliance rate with the Federal Standards.” <i>Id.</i> at USSP019554.</p>
91.		<p>From February 2004 through June 2020, ACHD took 112 separate enforcement actions against U.S. Steel, each resulting from U.S. Steel’s failure to comply with regulations applicable to its Mon Valley Works facilities. App. A to ACHD’s Expert Designations (attached as Ex. 50). Former ACHD Director Dr. Karen Hacker testified that she was “aghast” after she learned of the June Fire, and that it was “abysmal” for U.S. Steel to have two fires in less than six or seven months. Ex. 13, Hacker Dep. 180:1-10.</p>

92.		<p>The Expert Report of Professor Root Martinez includes a section entitled, “Assuming the allegations in the Complaint are true, and that the opinions expressed in the expert reports of Dr. Ranajit Sahu and Michael B. Plunkett, P.E., are accepted by the court, the appointment of a monitor, under the criteria that I outline below, would, in my opinion, be beneficial to ensure U.S. Steel engages in necessary remediation efforts and implements an effective compliance program designed to prevent similar future violations of legal and regulatory requirements,” Ex. 34, Root Martinez Report at 10 § (e), <i>see generally</i> 10-13, in which Professor Root Martinez (1) summarizes the findings of Dr. Sahu and Mr. Plunkett regarding U.S. Steel’s “failure to adhere to industry standards regarding inspection and maintenance of equipment,” <i>id.</i> at 10 § (i) and (2) states “[w]idespread compliance failures” suggested by U.S. Steel’s enforcement record “further support the imposition of a monitor to assist the court in overseeing remediation efforts,” <i>id.</i> at 12 § (3).</p>
93.		<p>Professor Root Martinez issued a Supplemental Expert Report after she reviewed the Mon Valley Works Clairton Plant Operations and Environmental Report (2019), <i>see</i> RCS ¶¶ 89-90, and transcripts of the depositions of U.S. Steel employees Michael S. Rhoads, Tishie Woodwell and Kurt Barshick. Supplemental Expert Report of Veronica Root Martinez, Nov. 30, 2020 (“Supp. Root Martinez Report”) at 1 (attached as Ex. 51) (note that each page erroneously paginated as page 5). Professor Root Martinez states “[t]he additional information I have reviewed raises red flags for me regarding whether U.S. Steel took, and is taking, the fire and subsequent alleged compliance failures at the Clairton Works plant, assuming a factfinder was to determine that the fire and subsequent circumstances were a significant failure, seriously.” <i>Id.</i>; <i>see generally id.</i> at 2 § (i) – (v).</p>
94.		<p>Professor Root Martinez identifies the monitorships of Volkswagen and Carnival Cruise Lines as “notable examples” where monitors</p>

		<p>have been appointed in environmental cases, Ex. 34, Root Martinez Report at 9 § (i)-(ii), and identifies <i>United States v. City of Detroit</i>, as an instance where a district court employed a monitor to resolve violations of environmental regulations in a civil matter, <i>id.</i> at 10 § (iv).</p>
95.		<p>The Expert Report of Professor Root Martinez includes a section entitled, “Judges appoint monitors to assist in overseeing remediation efforts at organizations found to have engaged in some sort of misconduct, particularly when the remediation will involve highly technical matters that necessitate specialized expertise or matters requiring a great deal of time to oversee,” in which Professor Root Martinez states “the monitor is employed to ensure the monitored organization’s specific performance with the court’s orders and to report directly to the court on the progress of these efforts,” Ex. 34, Root Martinez Report at 5 § (iii), and “[w]hen a court orders injunctive relief as part of the resolution of a civil matter, the appointment of a monitor may be beneficial to ensure that all matters required by the court’s order are addressed properly,” <i>id.</i> at 5 § (iv). <i>See also id.</i> at 6 § (i) (“...but for highly time-intensive or technical matters it is often more efficient for the court to appoint a monitor to act as the court’s agent and oversee the effort, reporting back to the court regarding the progress of the remediation effort.”).</p>
96.		<p>Pursuant to the terms of a Settlement Agreement and Order entered between ACHD and U.S. Steel on June 27, 2019, U.S. Steel is required to submit to five annual environmental air compliance audits of the Clairton plant, performed by “an independent third-party consultant with substantial experience with coke batteries and air pollution control requirements,” approved by ACHD. Settlement Agreement and Order No. 190604, June 27, 2019 at 13 § IV(d) (attached as Ex. 52) (U.S. Steel also required to submit a corrective action plan following each audit, subject to review by ACHD and to</p>

		be implemented within 30 days of ACHD's approval); <i>see</i> Trinity Consultants' "Air Quality Compliance Audit Report – U.S. Steel Corp. / Clairton Works," August 2020 (attached as Ex. 53) (annual report of comprehensive audit of coke plant battery operations initiated on April 30, 2020).
97.		On March 9, 2020, Plaintiff Clean Air Council issued Responses to U. S. Steel's First Set of Interrogatories. (Excerpts attached as "Ex. 54"). Clean Air Council's response to Interrogatory No. 4, <i>id.</i> at No. 4, is identical to the response issued by Plaintiff PennEnvironment, ECF No. 93-23 at No. 4.