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**Michael S. Rhoads**  
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**U. S. Steel Mon Valley Works**  
**Clairton Plant**

February 22, 2019

Ms. Jayme Graham  
Air Quality Program Manager  
Allegheny County Health Department  
301 39<sup>th</sup> Street, Bldg. No. 7  
Pittsburgh, PA 15201-1891

Via email

Dear Ms. Graham:

RE: United States Steel Corporation – Mon Valley Works – Clairton Plant  
Weekly Update Regarding Breakdown Reports #21256, 2157, and 2158  
No. 2 Control Room, No. 5 Control Room, and Battery Stacks

Pursuant to the Allegheny County Health Department's (ACHD) request, the following is the weekly update regarding the above-referenced breakdowns. This update supplements the Mitigation Plan that was submitted on January 7, 2019; and updates submitted on January 9, 11, 18, 25 and February 1, 8, and 15, 2019.

As we discussed, U. S. Steel is employing significant resources around the clock to investigate the incident. While the investigation is being completed, we have expended and continue to expend substantial personnel and financial resources to employ mitigation efforts to reduce the potential impacts from the incident. We remain committed to employing actions only when such actions can be done in a manner that is safe for our employees, contractors, and the public and when potential impacts to the environment can be minimized.

**Significant work items completed the week of February 17 – February 23**

1. Began disassembly of C-521 2<sup>nd</sup> stage axial compressor per failure expert protocol
2. Completed Sub Gas suction valves repairs and installation
3. Completed installation of fire suppression piping in building trench
4. Finished installation of fire suppression main piping at roof level - South
5. Completed installation of Sub Gas discharge piping
6. All Sub Gas discharge expansion joints installed
7. Received two more rebuilt 1500HP axial compressor motors
8. Began installation of building crane electrical components
9. Continue installing new piping and instrumentation on axial compressors
10. Continue installing new purlins and new roof decking
11. Continue repairs of axial compressors
12. Continue rebuild of lube oil systems

**Significant work items planned for the week of February 24 – March 2**

1. Finish disassembly of C-521 1<sup>st</sup> stage axial compressors using failure expert protocol
2. Install two rebuilt 1500HP axial compressor motors
3. Begin to install new roof fans
4. Continue installation of building crane electrical components
5. Test run 593 lube oil equipment
6. Torque and set Sub Gas discharge expansion joints
7. Continue installing new piping and instrumentation on axial compressors
8. Begin install of fire suppression main piping at roof level - North
9. Continue installing new purlins and roof decking
10. Continue repairs of axial compressors
11. Continue rebuild of lube oil systems

To date, among other efforts, we have utilized natural gas (displacing coke oven gas) to the extent practicable.

**Previous Mitigation Methods Implemented and Reported for SO2 Control detailed in the following documents:**

1. Mitigation Plan 01-07-19
2. Mitigation Plan Supplemental Report 01-09-19
3. Mitigation Plan 01-11-19
4. Mitigation Plan 01-18-19
5. Mitigation Plan 01-25-19
6. Mitigation Plan 02-01-19
7. Mitigation Plan 02-08-19
8. Mitigation Plan 02-15-19

**Consideration of Possible Additional Mitigation Steps:**

As we discussed, we understand ACHD's expectation that U. S. Steel consider additional mitigation steps in the event data indicate that such measures are warranted.

We are investigating other mitigation steps to be taken including:

1. Continue to evaluate processes and operations to identify ways to minimize environmental impact and ensure battery integrity and stack compliance.

**Operating Data Summary**

**Table 1. Summary of coking times, normal vs. current operations.**

Battery	Normal Coking Time (hrs)	Previously Reported Coking Times	Current Coking Times
1	22	22	23 (Increased on 1/14)
2	22	22	23(Increased on 1/14)
3	22	22	23(Increased on 1/14)

13	18	21.5	22
14	18	21.5	22
15	18	21.5	22
19	18	22.5	26 (Increased on 1/28)
20	18	22.5	26 (Increased on 1/28)
B	18	20	20
C	18	20	21 (Increased on 1/17)

Please note that on January 14, 2019, we increased the coking time on Batteries 1, 2, and 3 from 22 hours to 23 hours. On January 15, we increased 20 Battery coking time from 22.5 to 23.5 hours. On January 17, we increased C Battery coking time from 20 to 21 hours. On January 25, we increased 19 and 20 Batteries to 24 hours. On January 28, we increased 19 and 20 again, to 26 hours. We continue to monitor the battery and environmental performance.

**Table 2. Summary of fuel percentages, normal vs. current operations.**

Emission Units	Normal Operating Fuel Usage				Current Operating Fuel Usage			
	<i>Natural Gas</i>	<i>Coke Oven Gas</i>	<i>Blast Furnace Gas</i>	<i>Flow (MMCFD)</i>	<i>Natural Gas</i>	<i>Coke Oven Gas</i>	<i>Blast Furnace Gas</i>	<i>Flow (MMCFD)</i>
Clairton Underfire Gas		100%	--	90	60%	40%	--	90
Clairton No. 1 Boiler	13%	87%	--	25	90-95%	5-10%	--	25
Clairton No. 2 Boiler		100%	--	11	80-90%	10-20%	--	11
ET Boilers		4%	96%	270	2-3%	2-3%	90-95%	270
ET Blast Furnaces	50%	50%		25	100%	--		25
ET No. 1 Stove		1-2%	98-100%	38	1%	1%	98-100%	38
ET No. 3 Stove		1-2%	98-100%	35	1%	1%	98-100%	35
Irvin No. 1 Boiler	5-10%	90-95%	--	1.3	90-95%	5-10%	--	1.3
Irvin Hot Strip Mill	25%	75%	--	21	80-90%	10-20%	--	21
Irvin No. 2 Boiler	5-10%	90-95%	--	1.4	90-95%	5-10%	--	1.4
Irvin No. 3 Boiler	5-10%	90-95%	--	0.5	90-95%	5-10%	--	0.5

Irvin No. 4 Boiler	5-10%	90-95%	--	0.5	90-95%	5-10%	--	0.5
Irvin HPH Annealing	5-10%	90-95%	--	1	90-95%	5-10%	--	1
Irvin OCA Annealing	5-10%	90-95%	--	1	90-95%	5-10%	--	1
Irvin Continuous Annealing	5-10%	90-95%	--	0.5	90-95%	5-10%	--	0.5
Irvin No. 1 Galvanize	100%		--	0.25	100%		--	0.25
Irvin No. 2 Galvanize	100%		--	0.14	100%		--	0.14

As noted above, since our January 9, 2019 update, we increased the use of natural gas to offset coke oven gas at the Irvin Hot Strip Mill. In addition, on January 10, 2019, we increased the use of natural gas on Clairton Boiler No. 1. Clairton underfire natural gas percentage increased from 40% to 60%. We continue to monitor these efforts.

While we are expediting our efforts to bring the facility back to normal operation, we remain committed to employing actions only when such actions can be done in a manner that is safe for our employees, contractors, and the public; and when potential impacts to the environment can be minimized.

Also, as has been discussed previously, we remain committed in openly communicating with the ACHD regarding this matter. If you have any questions regarding this update, please contact Mike Dzurinko or me.

Sincerely,



Michael S. Rhoads

- cc: Jim Kelly (ACHD)  
Jason Willis, Esq. (ACHD)  
Mike Dzurinko (USS)  
Chip Babst, Esq. (BabstCalland)  
Mike Winek, Esq. (BabstCalland)  
David Hacker, Esq. (USS)