



United States Steel Corporation
Mon Valley Works – Edgar Thomson Plant
13th and Braddock Avenues
Braddock, PA 15104

March 2, 2022

VIA ELECTRONIC DELIVERY

Mr. Dean Deluca – Air Quality Program Manager
Ms. Shannon Sandberg – Air Quality Program – Enforcement Section Chief
Allegheny County Health Department
Air Quality Program
301 39th Street, Bldg. 7
Pittsburgh, PA 15201-1811

Re: **United States Steel Corporation- Clairton Plant
Modified Episode Mitigation Plan**

Dear Mr. Deluca and Ms. Sandberg:

United States Steel Corporation (U. S. Steel) is submitting the attached modified Episode Mitigation Plan for the Edgar Thomson Plant in response to ACHD's Notice of Disapproval and Order for Modification ("notice") of the Mon Valley Air Pollution Mitigation Plan. As you may recall, U. S. Steel supported the Department's effort in promulgation of the Air Episode Rule. We continue to believe that when objectively and rationally applied, the rule is as an appropriate and reasonable means to maintain the PM_{2.5} National Ambient Air Quality Standard (NAAQS) based upon current ambient air data and local conditions. While U. S. Steel maintains that the prior submittal fully met the requirements as well as the spirit and intent of Article XXI § 2106.06; and respectfully disagrees with the Department's assertions that the plan was deficient, in good faith, we have made revisions and clarifications to the Plan. While we supported ACHD's rulemaking efforts, U. S. Steel was disappointed that ACHD rejected to meet with us in response to the notice.

U. S. Steel is committing to a nearly 60% reduction of the permitted levels of PM_{2.5} from its Mon Valley operations during the Warning Phase of an Air Episode. Furthermore, these reductions are approximately 11% to 17% from the four-year average of actual emissions of PM_{2.5} and 16% to 23% of actual PM₁₀ emissions, noting that U. S. Steel Mon Valley Works consistently operates below the sum of its facility-wide permitted levels. The majority of the reductions would be implemented at the Clairton Plant as this is where the emissions and impacts are greatest according to ACHD analyses; and mitigation efforts, as outlined in the Plan, when safely and otherwise appropriately applied, are most feasible. These emissions during a Warning Phase of an Air Episode are well below the emission levels currently permitted (as noted above); and more importantly, substantially less than the emission levels that have been shown to demonstrate attainment in the approved PM_{2.5} State Implementation Plan.

In the attached submittal, U. S. Steel clarified our emission reduction calculations and included condensable particulate emissions as requested in the ACHD notice. U. S. Steel is committed to doing its fair share (and more) during episodes which is shown in the attached Plan. Contrary to ACHD's assertions in the notice, these actions demonstrate appreciable reductions in PM_{2.5} and PM₁₀ during the Warning Phase.

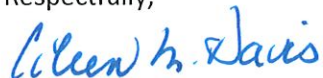
In the notice, ACHD referenced the facility's potential to emit, and stated that the reductions were insufficient. ***U. S. Steel respectfully notes that particulate matter emissions from the Edgar Thomson Plant during the Warning Phase would be approximately 90% lower than the facility's permitted particulate emission levels; and approximately 10% lower than the facility's actual emissions based upon the facility's four-year average of actual emissions.***

Contrary to the Department's assertion in the notice, U. S. Steel did consider more than just storage piles and roadways; and the attached submittal includes actions beyond those measures. By way of background, U. S. Steel did consider the feasibility of implementing actions among other operations within 24-hours of the Department's notification of a Mon Valley Air Pollution Watch. It is important to note that a curtailment in iron and steel production from the blast furnaces and BOP shop, respectively, at the Edgar Thomson plant would most likely result in *increased emissions* during the critical 24-hour period. This is because modifying the blast furnace production (reducing production or taking it offline) in response to an episode notification increases the likelihood of furnace instability that would more likely increase emissions and not decrease emissions as desired by the rule. Similarly, the effect of changing the iron production and characteristics at the blast furnace can result in increased emissions from the basic oxygen process furnace processes as the iron temperature and other properties would be affected. Therefore, U. S. Steel respectfully notes that such actions are not appropriate and are not expected to decrease emissions or further protect public health, safety, or welfare during a Warning Phase. Contrary to the desired outcome from the Air Episode Rule objectives, such actions can be expected to alter the stability of the blast furnace (and downstream processes) and increase emissions, especially during the first 24-hours for which the rule aims to target reductions.

U. S. Steel also respectfully notes that based upon the Department's Technical Support Document, ACHD determined that a county-wide rule was not appropriate and included certain areas in the Mon Valley – based upon, for the most part, Liberty monitoring data (that has been improving and that has met the NAAQS for the last two years.) While we still maintain that PM_{2.5} is a regional pollutant, during the elevated readings at Liberty, the readings at North Braddock were well below the NAAQS during the same time periods, indicating that sources further from Liberty and closer to North Braddock are not shown to significantly adversely impact air quality; and similarly, emission reduction actions from such sources are not expected to appreciably improve regional air quality. Finally, our Plan includes procedures for recordkeeping and reporting as required by the rule.

U. S. Steel remains committed to doing our fair share to continue to protect the air quality in the communities in which we operate. If you have any questions, please contact me at (412) 273-4730 or CDavis@uss.com.

Respectfully,



Coleen Davis

Coordinating Manager - Environmental
Mon Valley Works – Edgar Thomson Plant

Air Quality Program

301 39th Street, Clack Health Center Building 7, Pittsburgh, PA 15201-1811
 ph: 412.578.8103 • 24-hr: 412.687.ACHD (2243) • www.alleghenycounty.us/healthdepartment

SUBMISSION FORM – AIR POLLUTION MITIGATION PLAN

WATCH/WARNING PLAN INFORMATION

The Air Pollution Mitigation Plan is submitted by affected facilities to meet the requirements of Allegheny County regulations found in §2106.06 (Mon Valley Air Pollution Episode) of Article XXI.

01 Facility Information

Name of Facility U. S. Steel Mon Valley Works – Edgar Thomson Plant

Address 13th and Braddock Avenues

City State Zip+4 Braddock, PA 15104

Permit # 0051 Phone 412-273-4730

02 Environmental Contact Information (Person to contact regarding technical details of this mitigation plan)

Name/Title Coleen M Davis, Coordinating Manager - Environmental

Address 13th and Braddock Avenues

City State Zip+4 Braddock, PA 15104

Email cdavis@uss.com Phone (412) 273-4730

03 Responsible Official Information

Name/Title Kurt A. Barshick

Address P. O. Box 878

City State Zip+4 Dravosburg, PA 15034



COUNTY OF



ALLEGHENY

RICH FITZGERALD
COUNTY EXECUTIVE

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SUBMISSION FORM – AIR POLLUTION MITIGATION PLAN

Email	kbarshick@uss.com	Phone	(412) 675-2600
04	AFFIDAVIT		
<p>I certify that, subject to the penalties of Title 18Pa. C.S.A. Section 4904 and 35 P.S. Section 4009(b)(2), I am the responsible official having primary responsibility for the operation of the facilities to which this air pollution mitigation plan applies and that the information provided in this mitigation plan is true, accurate and complete to the best of my knowledge, information and belief formed after reasonable inquiry.</p>			
Signature:			Date 3-2-2022
Typed/Printed Name:	Kurt A. Barshick		



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05 List all equipment or processes at your facility that emit PM₁₀ and/or PM_{2.5}

Below is a list of all equipment and processes at Edgar Thomson that emit PM₁₀ and/or PM_{2.5} as reported in the annual air emissions inventory:

1. Boiler No. 1
2. Boiler No. 2
3. Boiler No. 3
4. Blast Furnace No 1 Stoves
5. Blast Furnace No 1 Misc Fuel Combustion
6. Blast Furnace No 1 Raw Materials Handling
7. Blast Furnace No 1 Dust Catcher Dust handling
8. Blast Furnace No 1 Slag handling
9. Blast Furnace No 1 Fugitives – Casthouse Roof Monitor
10. Blast Furnace No 1 Fume Suppression
11. Blast Furnace Baghouse
12. Blast Furnace No 3 Stoves
13. Blast Furnace No 3 Misc Fuel Combustion
14. Blast Furnace No 3 Raw Materials Handling
15. Blast Furnace No 3 Dust Catcher Dust handling
16. Blast Furnace No 3 Slag handling
17. Blast Furnace No 3 Fugitives – Casthouse Roof Monitor
18. Blast Furnace No 3 Fume Suppression
19. Blast Furnace Flare
20. BOP shop Misc Fuel Combustion
21. BOP Operations Mixer Baghouse – Hot Metal Transfer/ Hot Metal Desulfurization
22. BOP Vessel Process (Gas Cleaning Scrubber) – Vessels F and R
23. BOP Shop Misc Operations Secondary Baghouse - Iron Slag Skimming After Desulfurization, Furnace Charging, Furnace Tapping, Steel Slag Dumping
24. Miscellaneous Operations: Iron Slag Skimming before BOF and Vessel Residual Slag Dump
25. BOP Flux Handling – Railcar Unloading Baghouse
26. BOP Flux Handling – Transfer Tower Baghouse
27. BOP Flux Handling – Flux Handling #1 Baghouse
28. BOP Flux Handling – Flux Handling #2 Baghouse
29. BOP Building Fugitives
30. LMF Baghouse Process Operation

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- 31. BOP Shop Flux Handling – Lime Flux
- 32. Vacuum Degassing Process Operation
- 33. Caster/ LMF Misc Fuel Combustion
- 34. Cooling Towers
- 35. Plant-wide Misc Fuel Combustion
- 36. Blast Furnace Slag Storage Piles
- 37. Paved Roads
- 38. Unpaved roads

In addition to the above, the below sources not required to be specifically included in the annual emissions inventory may also emit PM10 and/or PM2.5:

- 39. Contractor activities
- 40. Diesel Locomotives

WATCH PHASE OF MITIGATION PLAN

- 06** How will your facility ensure that equipment which produces particulate emissions is operating in a manner consistent with optimal engineering practices?

See attached Watch Plan

- 07** How will your facility ensure that air pollution control equipment is maintained in optimal working condition?

Each air pollution control equipment has electrical and mechanical preventative maintenance tasks, as applicable, scheduled to ensure the equipment is in optimal working condition.

- 08** How will your facility ensure that actions taken in blocks 05 and 06 are properly monitored, recorded, and reported to the Health Department?



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The checklists will be completed by the respective areas and verification of actions taken will be reviewed by and signed off on by an appropriate area manager or designee on the Watch Phase Checklist which will be made available for submission to ACHD.



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WARNING PHASE OF MITIGATION PLAN

09 How will your facility ensure that procedures are in place so enough staff and resources are available to implement the Mon Valley Air Pollution Warning Phase within 24 hours of the notification from ACHD?

USS will ensure that there are sufficient staff and resources (U. S. Steel employees and/or contractors) available to implement the Mon Valley Air Pollution Warning Phase within 24 hours of the Department's notification to the source of a Mon Valley Air Pollution Watch.

10 For every process and piece of equipment, list all available methods to reduce PM_{2.5}/PM₁₀ emissions from your four-year hourly average. During an actual warning phase, the actions to reduce emissions must last the length of the episode.

See Attachment 2 Warning Plan

11 For each piece of equipment and process, determine which emission reduction methods are feasible. List whether each method is feasible or infeasible and provide a justification for your determination.

For evaluation purposes, similar air emissions inventory sources were combined.

1. Production Curtailment –

- a. Edgar Thomson is an integrally connected process. The Blast Furnaces operate most efficient and least emissive when operated at steady state. Altering the production schedule /process at the Blast Furnace which then affects the BOP and Caster can result in instability in the furnace which can result in more emissions (ie unplanned bleeder openings, cold iron and furnace, and iron and/or steel beaching) and unsafe conditions.
- b. The planned actions focus on fugitive emissions emitted at ground level below the inversion ceiling which do not have the characteristics to break through. These actions will have a greater impact without risking other environmental concerns, safety, and facility assets.

2. Paved Roads

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- a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
- b. Ensure environmental work practices are being followed to minimize emissions – Feasible
- c. Increase road sweeping and/ or watering – feasible. This emission reduction is estimated at 25%.
- d. Evaluate seasonal dust suppressant application- feasible. This emission reduction is estimated at 25%.
- e. Reduce the plant speed limit – feasible
- f. Minimize plant traffic as much as feasible – feasible

Note: Emissions are controlled through a combination of street sweepers, water trucks (with and without dust suppressant addition), and vacuum trucks. The Edgar Thomson Plant has approximately 6 miles of paved and unpaved roads supporting approximately 125,000 vehicle miles per year including heavy equipment, tractor trailers, tri-axle trucks and personal vehicles.

3. Unpaved roads

- a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
- b. Ensure environmental work practices are being followed to minimize emissions – Feasible
- c. Increase road watering – feasible. This emission reduction is estimated at 50%.
- d. Evaluate seasonal additional dust suppressant application – feasible. This emission reduction is estimated at 25%.
- e. Minimize traffic on unpaved roads – feasible

Note: Emissions are controlled through a combination of street sweepers, water trucks (with and without dust suppressant addition), and vacuum trucks. The Edgar Thomson Plant has approximately 6 miles of paved and unpaved roads supporting approximately 125,000 vehicle miles per year including heavy equipment, tractor trailers, tri-axle trucks and personal vehicles.

4. Diesel Locomotives

- a. Reduce unnecessary idling of inactive locomotives. ET operates 8 diesel locomotives, 4 of which are typically active. – feasible. The emission reduction is estimated at 40%.

5. Contractor Activities

- a. Stop all unnecessary dry vacuuming services – feasible
- b. Stop all unnecessary sandblasting services – feasible
- c. Stop all unnecessary other contractor services generating PM emissions - feasible

Note: These activities have been estimated at a reduction of 95%

6. Cooling Towers

- a. Turn off all cooling towers – Infeasible - the cooling towers provides cooling water to the plant and must support the processes that remain in operation and protect the assets.

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- b. Increase blowdown rate of open cooling towers – Feasible – cooling tower emissions are the result of total dissolved solids (TDS) in the water being evaporated and lost through tower drift. All of the towers are ET are equipped with drift eliminators to minimize drift. Increasing the blowdown rate and adding lower conductivity (lower TDS) river water makeup will reduce the emissions by approximately 25%.

Note: The Edgar Thomson Plant uses approximately 250 MGD of cooling water every day in the iron and steel making processes. Of this 250 MGD, approximately 100 MGD is recycled through multiple Title V permitted cooling towers.

7. Blast Furnace No 1 and No 3 Slag handling and storage piles
- a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Delay slag handling as much as possible until the inversion layer has lifted. Results in a 100% reduction on an hourly basis during an event. This does not reduce the annual emission amount.
 - d. Increase watering/ quenching as needed to reduce fugitive dust
8. Boiler No. 1, 2, and 3
- a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Fuel switching – Infeasible/Ineffective, it would not result in emission reductions as process gases would need to be flared so fuel switching would lead to an increase in emissions
 - d. Shutdown – Infeasible, the boilers must operate to combust fuel and constantly provide steam to the process to protect the assets.

Note: The combined discharge stack of the boilers is 85 meters high and was designed and installed solely for the purpose of air dispersion as part of the SO₂ SIP. The design of the stack facilitates pushing emissions through inversion layers for minimal to no impact to around the surrounding area.

9. Blast Furnace No 1 and No. 3 Stoves
- a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Fuel switching – Infeasible/Ineffective, it would not result in emission reductions as process gases would need to be flared so fuel switching would lead to an increase in emissions
 - d. Curtailment – The Stoves are an integral part of the Blast Furnace operations and cannot be curtailed without risking asset damage to the Blast Furnaces. See Item No. 1 Production Curtailment
 - e. Shutdown – the Stoves are refractory lined assets which cannot be shutdown without significant preparation to ensure minimal damage to the asset which cannot be implemented in a 24-hour period.

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10. Blast Furnace No 1 and No 3 Raw Materials Handling
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Curtailment or shutdown - See Item No. 1 Production Curtailment
11. Blast Furnace No 1 and No 3 Dust Catcher Dust handling
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Curtailment or shutdown - See Item No. 1 Production Curtailment
12. Blast Furnace No 1 and No 3 Fugitives – Roof Monitors
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Curtailment or shutdown - See Item No. 1 Production Curtailment
13. Blast Furnace No 1 and No 3 Fume Suppression
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Fuel switching – Infeasible/Ineffective, it would not result in emission reductions as process gases would need to be flared so fuel switching would lead to an increase in emissions
 - d. Shutdown – The Blast Furnace baghouse is an emission control device. Shutting down the control device while the process is operating would cause an increase in emissions. See No. 1 Production Curtailment
14. Blast Furnace Flare
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Fuel switching – infeasible. The purpose of the flare is to consume excess process gas.
 - d. Shutting down – the BFG Flare’s purpose is consume excess BFG. If shut down, any excess gas not consumed would released into the atmosphere and cause an increase in emissions especially CO.
15. Plant-wide, Blast Furnace No 1 and No 3, BOP Shop, LMF, and Caster Misc Fuel Combustion
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible

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- c. Fuel switching – Infeasible/Ineffective, it would not result in emission reductions as process gases would need to be flared so fuel switching would lead to an increase in emissions
- 16. BOP Operations Mixer Baghouse – Hot Metal Transfer/ Hot Metal Desulfurization
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Shutdown – The Mixer baghouse is an emission control device. Shutting down the control device while the process is operating would cause an increase in emissions. See No. 1 Production Curtailment
- 17. BOP Vessel Process (Gas Cleaning Scrubber) – Vessels F and R
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Shutdown – The Gas Cleaning Scrubber is an emission control device. Shutting down the control device while the process is operating would cause an increase in emissions. See No. 1 Production Curtailment
- 18. BOP Shop Misc Operations Secondary Baghouse - Iron Slag Skimming After Desulfurization, Furnace Charging, Furnace Tapping, Steel Slag Dumping and BOP Shop Misc Operations: Iron Slag Skimming before BOF and Vessel Residual Slag Dump
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Shutdown – The Secondary baghouse is an emission control device. Shutting down the control device while the process is operating would cause an increase in emissions. See No. 1 Production Curtailment
- 19. BOP Flux Handling Baghouses including Railcar Unloading Baghouse, Transfer Tower, #1 and #2, and Lime Flux
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Shutdown – The Flux Handling baghouses are emission control devices. Shutting down the control devices while the process is operating would cause an increase in emissions. See No. 1 Production Curtailment
- 20. LMF Baghouse Process Operation and Vacuum Degassing Operation
 - a. Follow work practices/Environmental Management System procedures to minimize fugitive emissions - Feasible
 - b. Ensure environmental work practices are being followed to minimize emissions – Feasible
 - c. Curtailment – See No. 1 Production Curtailment

Note: LMF and Degasser are not operated at the same time

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12 How will your facility ensure that actions taken in block 10 are properly monitored, recorded, and reported to the Health Department?

The checklists will be completed by the respective areas and verification of actions taken will be reviewed by and signed off on by an appropriate area manager or designee on the Warning Phase Checklist which will be made available for submission to ACHD.

13 Provide an active spreadsheet containing the following:

- Calculations of your facility’s PM_{2.5} and PM₁₀ emissions for each of the past four years (2017-2020) in tons/year for every piece of equipment and process;
- Calculation of average four year emissions of PM_{2.5} and PM₁₀ in lbs/hr for each piece of equipment and process;
- Feasible PM_{2.5} and PM₁₀ emission reductions in lbs/hr that will occur during a warning phase for every piece of equipment and process as well as the facility total; and
- Feasible PM_{2.5} and PM₁₀ emission reductions in percent reduced from the hourly four year average for every piece of equipment and process as well as the facility total percent reduction.

This spreadsheet will be used to calculate actual emission reductions that will be reported to the Health Department after warning phases have ended.

14 How much time will be required for your facility to implement the emission reductions in block 10?

USS will initiate the emission reduction actions within 2 hours of initial notification and will have plan fully implemented within 24 hours of initial notification

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SUBMISSION FORM – AIR POLLUTION MITIGATION PLAN

INSTRUCTIONS	
Submission Form for the Air Pollution Mitigation Plan	
<u>Block 01</u> Facility Information	The facility name for the operation at that particular address should be used and not the name of the larger corporation. Use the address for the actual facility and not the company headquarters, if different. The most recent permit number should be included. If it is not known, it can be left blank.
<u>Block 02</u> Environmental Contact Information	Fill in the contact information of the individual (e.g. employee or consultant) who will be contacted to provide environmental technical information for the Air Pollution Mitigation Plan
<u>Block 03</u> Responsible Official Information	This address and phone number are for the office where the responsible official works the majority of the time. See block 04 instructions for information regarding the responsible official.
<u>Block 04</u> Affidavit	This affidavit must be signed by the responsible official. A Responsible Official is a President, Vice President, Secretary, Treasurer, General Partner, General Manager, a member of a Board of Directors, or Owner, depending on business structure. CORPORATION – President, Vice President, Secretary, Treasurer, or duly authorized person BUSINESS – Sole Proprietor or General Partner GOVERNMENT ENTITY – Ranking elected official or principal executive officer
<u>Blocks 05–08</u> Watch Phase of Mitigation Plan	The responses that you provide in blocks 05 through 08 will be specific to your equipment and facility. Below are some general ideas that may help you in how to approach these requirements. <ul style="list-style-type: none"> • Staff related <ul style="list-style-type: none"> • Review procedures with employees to ensure all equipment is properly operating in a way to minimize air emissions. • Schedule additional or on-call employees for upcoming shifts to ensure facility is fully staffed for a warning phase. • Conduct a shift meeting(s) to remind employees to prioritize the environmental impact of their operations to reduce emissions. • Share any other procedures which would help ensure sufficient staff levels and available resources to implement a warning phase. • Equipment related

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	<ul style="list-style-type: none"> • Inspect any equipment or processes which may have a potential to increase emissions to ensure proper operation and maintenance. • Implement improved operation and maintenance practices beyond standard operating procedures. • Ensure the facility is following the idling requirements under Act 124 of the PA Department of Environmental Protection regulations. • Conduct maintenance on all pollution control equipment. • Share any other procedures which help ensure the facility is operating in a manner consistent with good engineering practices. • Share any other procedures which help ensure the air pollution control equipment is maintained in good working condition.
<p><u>Block 09</u> Warning Phase of Mitigation Plan</p>	<p>A good starting point in completing this block is to refer to the table found in section II of your facility’s air quality permit titled “Emission Unit Identification” and identify which units emit particulate matter. There may be other equipment, not listed in the section II table, that can be included in the block 09 list.</p>
<p><u>Block 10</u> Warning Phase of Mitigation Plan</p>	<p>Block 10 should explain what actions the facility could possible take to ensure that hourly emissions are reduced.</p> <p>Possible methods include:</p> <ul style="list-style-type: none"> • Reduction in material throughput • Reduction in operating time • Increased use of controls or suppression equipment • Changes in raw materials <p>Examples of possible actions include:</p> <ul style="list-style-type: none"> • Reduce production by a certain percentage or rate from normal operating conditions. A reduction from a potential maximum production rate will not be accepted if it is too high compared to normal operating rates for the relevant time period, thereby not resulting in an actual reduction in pollution. • Reduce usage of diesel fuel or other PM_{2.5} or PM₁₀ creating fuel types or switch fuel types to lower PM_{2.5} or PM₁₀ as allowed by the relevant permits. • Bring in additional employees to allow the facility to operate in the best environmentally responsible manner. • Delay production to a future day when a mitigation plan is not needed. • Delay any non-essential activities to a future day when a mitigation plan is not needed.

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	<ul style="list-style-type: none"> • Fully or partially enclose material movement and other work activities which produce dust and other particulate matter (PM_{2.5} or PM₁₀ emissions). • Modify work practices to decrease PM_{2.5} or PM₁₀ emissions such as: <ul style="list-style-type: none"> ○ Slowing material handling ○ Fully or partially enclose material movement and other work activities which produce dust and other particulate matter (PM_{2.5} or PM₁₀ emissions). • Stop or decrease unnecessary transportation activities and reduce travel speed on necessary transportation. • Employ additional roadway wetting or other activities to minimize road dust creation. • Add any other measures which reduce PM_{2.5} or PM₁₀ emissions.
<u>Block 11</u> Warning Phase of Mitigation Plan	Emission reduction methods that are feasible can be eliminated from consideration for other reasons as long as adequate justification is given.
<u>Block 12</u> Warning Phase of Mitigation Plan	The Health Department will require a report, submitted after the warning phase has ended, itemizing what actions were taken to meet the requirements of the warning phase.
<u>Block 13</u> Warning Phase of Mitigation Plan	<p>The spreadsheet must include actual plant emissions of PM_{2.5} and PM₁₀ for all equipment listed in block 09 for each of the past four years (2017-2020) in tons/year. These calculations can be copied directly from the spreadsheets submitted to the Health Department for emissions inventories.</p> <p>For each piece of equipment and process, emissions from the last four years must be provided in tons/year.</p> <p>For each piece of equipment and process, proposed feasible emission reductions must be provided in lbs/hr.</p> <p>The hourly average will be calculated for each unit and process by adding yearly emissions together and dividing by the total number of hours that the unit emitted over four years.</p> <p>In the case of a batch process, calculations will need to take into account the number of hours in each batch and the number of batches in a year.</p>



Air Quality Program

301 39th Street, Clack Health Center Building 7, Pittsburgh, PA 15201-1811
ph: 412.578.8103 • 24-hr: 412.687.ACHD (2243) • www.alleghenycounty.us/healthdepartment

SUBMISSION FORM – AIR POLLUTION MITIGATION PLAN

<u>Block 14</u> Warning Phase of Mitigation Plan	Section 2106.06 of county air quality regulations requires that an affected facility is able to implement the requirements of the warning phase within 24 hours.
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COUNTY OF



ALLEGHENY

RICH FITZGERALD
COUNTY EXECUTIVE

Air Quality Program

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SUBMISSION FORM – AIR POLLUTION MITIGATION PLAN

Mitigation Plan Checklist

The following checklist is provided as a list of items required for a complete mitigation plan submission. If at any time you have questions about your application, please call JoAnn Truchan 412-578-7981 or Jayme Graham 412-578-8129.

- Has the responsible official signed and dated the first page (block 04)?
- Have you provided an active spreadsheet showing actual emissions for every piece of equipment and process of PM_{2.5} and PM₁₀ for the past four years in tons per year?
- Does the spreadsheet include the average actual PM_{2.5} and PM₁₀ emissions from every piece of equipment and process for the past four years in lbs/hr?
- Does the spreadsheet include the PM₁₀ and PM_{2.5} reduction that will be achieved from every piece of equipment and process in lbs/hr and % from the four year hourly average during the warning phase?
- Have you provided a complete response for each of the fourteen blocks?



Attachment 1
U. S. Steel Edgar Thomson Plant
Watch Plan

1. Monitor episode event for potential warning trigger.
2. Evaluate current operations and contractor operations for normal operating conditions and initiate any corrective actions as necessary.
 - a. Sand blasting
 - b. Vac trucks in service
 - c. Operating locomotives
 - d. Heavy mobile equipment uses
 - e. Contractor activity that will contribute to reductions in PM₁₀ and PM_{2.5}.
3. Evaluate current operations and contractor operations to identify non-essential activity and curtailment if Warning Phase is triggered that contribute to PM₁₀ & PM_{2.5} emissions.
4. The following additional inspections on permitted pollution control equipment will be performed once per turn during a Watch Phase to ensure operations are within normal ranges and are operating in a manner consistent with optimal engineering practices. Inspection shall include as applicable, draft, differential pressure, water flow rate, and status of performance compared to established operating range.
 - a. Blast Furnace Baghouse
 - b. Secondary Emissions (Fugitive) Baghouse
 - c. Mixer Baghouse
 - d. LMF Baghouse
 - e. BOP Primary Scrubber
5. Evaluate Blast Furnace 1 & 3 Slag spraying, slag handling, and storage piles for normal operating conditions and initiate any corrective actions as necessary.
6. The speed limits in the plant will be decreased and the information communicated to plant protection.
7. Inspect road conditions and minimize roadway vehicle traffic to the extent possible.
8. Develop event specific actions to be implemented if Warning Phase were to be triggered.

9. Ensure sufficient staff and resources are available to implement the Mon Valley Air Pollution Warning Phase within 24 hours of Department's notification to the source of a Mon Valley Air Pollution Watch.

Attachment 1

U. S. Steel Edgar Thomson Plant

Watch Phase Checklist

Date and Time of ACHD Notification: _____

Verification of actions taken (Note corrective action if required):

1. Evaluate current operations and contractor operations for normal operating conditions and initiate any corrective actions as necessary.

a. Sand blasting:	Normal	Corrective Required
b. Review Locomotive Operations	Normal	Corrective Required
c. Heavy mobile equipment uses:	Normal	Corrective Required
d. Vacuum Truck Usage:	Normal	Corrective Required
e. Other contractor service:	Normal	Corrective Required

2. List potential contractor activity that will be curtailed during warning phase if triggered

3. Check all pollution control equipment for normal operation and initiate corrective actions as necessary.

a. Blast Furnace Baghouse:	Normal	Corrective Required:
b. Secondary Emissions (Fugitive) Baghouse:	Normal	Corrective Required:
c. Mixer Baghouse:	Normal	Corrective Required:
d. LMF Baghouse:	Normal	Corrective Required:
e. BOP Primary Scrubber:	Normal	Corrective Required:

4. BF Slag spraying, slag handling, and storage piles for normal operating conditions and initiate any corrective actions as necessary:

a. BF 1 Slag Pit:	Normal	Corrective Required:
b. BF 3 Slag Pit:	Normal	Corrective Required:

5. Verified speed limit restriction implemented & Plant Protection notified: Yes No

6. Water as necessary any paved and unpaved roads: Additional watering applied? Y / N

7. List event specific actions to be implemented if Warning Phase were to be triggered.

8. Ensure sufficient staff and resources are available to implement the Mon Valley Air Pollution Warning Phase within 24 hours of Departments notification to the source of a Mon Valley Air Pollution Watch.

Verified Action Required?

Attachment 2
U. S. Steel Edgar Thomson Plant
Warning Plan

§2106.06(e)2. Mon Valley Air Pollution Warning Phase: A Mon Valley Air Pollution Warning Phase shall include measures to reduce PM2.5 and PM10 emissions to minimize the impact on public health, safety, or welfare, the timeframe for implementing each measure, and an estimate of the PM2.5 and PM10 emissions reductions during a 24-hour period for each measure. The Mon Valley Air Pollution Warning Phase shall include the procedures identified in the Mon Valley Air Pollution Watch Phase and procedures for record keeping and reporting to the Department the actions taken during the Mon Valley Air Pollution Warning period. The measures to reduce PM2.5 and PM10 emissions may include, but are not limited to, the following:

- A. Reduce transportation activity;
- B. Switch or decrease fuel use as allowed by the facility's permit issued under this Article;
- C. Delay nonessential activities that may cause emissions;
- D. Modify work or other practices; and
- E. Reduce, modify, cease, curtail, defer or postpone production and allied operations.

1. Verify any corrective actions required during the watch phase that have been implemented or continued resources are actively working to complete.
2. Curtail nonessential contractor activities identified during watch phase. Typical contractor activities may include dry and wet material vacuuming and sandblasting. These activities vary daily based on the plant's requirements.
 - a. Dry vac truck services
 - b. Sandblast activity
 - c. Heavy mobile equipment uses
 - d. Other contractor activity that contributes to reduction in PM₁₀ and PM_{2.5} as determined during the Watch Phase
3. Notify Union Railroad Company (313-573-4051) to eliminate engine idling, any engine unnecessary movement if possible, and/or reduce speeds.
4. Increase roadway watering and street sweeping to reduce fugitive dust emissions. No road watering will occur when temperatures are below, or forecasted to be below, freezing due to safety risks.
5. Implement material handling reduction to waste material transfer and travel (i.e. waste sludge loading and transport for disposal and removal and transport of collected baghouse

dust). Material handling will be delayed to the extent possible reducing emissions from material transfer and road fugitives.

6. Blast Furnace slag pit excavating, material transfer, and truck loading will be delayed to the extent possible to reduce emissions from material transfer and road fugitive emissions.
7. Shut down nonessential USS owned diesel locomotives identified during watch phase to reduce emission from diesel equipment.
8. Increase water blowdown of water-cooling towers to reduce dissolved solids. Total water-cooling tower recirculation rate is 100 MGD through multiple Title v permitted cooling towers
9. Verify proper function and full utilization of the state implementation plan installed boiler stack for maximum dispersion.
10. Plant protection to enforce and document any required enforcement of diesel-idling rule, speed restriction limit, and status of road conditions.

Safety is of paramount importance, when developing mitigation actions/strategies in accordance with this plan.

- a. No action will be taken unless it is deemed safe.***
- b. USS can deviate from the plan, if it is necessary to ensure safe operations.***

The Warning Plan may be revised based on lessons learned during implementation of the Plan.

- c. U. S. Steel will advise the Department in writing of any change affecting the technical content or the implementation of the Plan no more than 30 days following the change.***
- d. The revised Warning Plan will be effective upon submission to the Department.***

Information used to evaluate the methods will include the ACHD's current forecast, available weather data, USS's internal operations data and PM_{2.5} prediction tools.

Attachment 2
U. S. Steel Edgar Thomson Plant
Warning Phase Checklist

Date and Time of ACHD Notification: _____

Verification of Actions taken (Write OK on provided line; if not OK, please explain):

- 1. Verified all corrective actions from watch phase are complete.**

All actions complete

Additional resources needed

- 2. Curtail non-essential plant or contractor activity contributing to airborne dust identified during watch phase. List contractor notified and time.**

Contractor Name

Time Notified

- 3. Notify Union Railroad Company (313-573-4051) and USS Transportation Department to eliminate engine idling, any engine unnecessary movement if possible, and/or reduce speeds:**

- 4. Verify Increase roadway watering and street sweeping to reduce fugitive dust emissions. No road watering will occur when temperatures are below or forecasted to be below freezing due to safety risks.**

- | | | |
|---|-----|------------|
| a. Minimize any unnecessary truck travel: | Yes | Time _____ |
| b. Reapply water and/or dust suppressant: | Yes | Time _____ |
| c. Increase Road Sweeping: | Yes | Time _____ |
| d. Reduce paved and unpaved roadway speeds: | Yes | Time _____ |

- 5. Verify material handling reduction to waste material transfer and travel.**

Yes Time _____

- 6. Verify Blast Furnace slag pit excavating, material transfer, and truck loading delayed to the extent possible to reduce emissions from material transfer and road fugitive emissions.**

Yes NO

- | | |
|---|-------|
| a. BF 1 Slag Pit start of digging | _____ |
| b. BF 1 Slag Pit start of truck loading | _____ |
| c. BF 3 Slag Pit start of digging | _____ |
| d. BF 3 Slag Pit start of truck loading | _____ |

7. **Verify shut down nonessential of USS owned diesel locomotives identified during watch phase to reduce emission from diesel equipment.**
 - a. Number of locomotives powered down _____

8. **Verify Increase cooling tower blowdown rates and increase river makeup**
(if unable to increase blowdown, note why)
Yes No _____

9. **Verify proper function and full utilization of the state implementation plan installed boiler stack for maximum dispersion.**
Yes Time _____

10. **Verify plant protection notified of warning phase and increase patrol / enforcement**
Yes Time _____