Revision to the Allegheny County Portion of the Pennsylvania State Implementation Plan

Limited Second Maintenance Plan for the Liberty-Clairton PM_{10} Area

Allegheny County Health Department
Air Quality Program

May 12, 2021

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ACRONYMS AND ABBREVIATIONS

ACHD	Allegheny County Health Department
AQS	EPA Air Quality System
CAA	Clean Air Act
CFR	Code of Federal Regulations
Cond	Condensable fraction of PM_{10}
DV	Design Value
EPA	United States Environmental Protection Agency
FEM	Federal Equivalent Method
Filt	Filterable fraction of PM_{10}
FR	Federal Register
FRM	Federal Reference Method
LMP	Limited Maintenance Plan
$\mu g/m^3$	Micrograms per cubic meter (of PM_{10} in ambient air)
MOS	Margin of Safety
MVW	Mon Valley Works (U. S. Steel)
NAAQS	National Ambient Air Quality Standards
NH_3	Ammonia
NO_x	Oxides of Nitrogen (generally NO or NO_2)
PA DEP	Pennsylvania Department of Environmental Protection
PEC	Pushing Emission Control
PM	Particulate Matter
PM_{10}	PM less than or equal to a nominal 10 microns in aerodynamic diameter
$PM_{2.5}$	PM less than or equal to a nominal 2.5 microns in aerodynamic diameter (also referred to as fine particulates)
PSD	Prevention of Significant Deterioration
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SPC	Southwestern Pennsylvania Commission
tons/year	Tons per year (of emissions)
USS	United States Steel Corporation
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound

1. Overview

On October 2, 2002, the Allegheny County Health Department (ACHD) finalized a revision to the Allegheny County portion of the Pennsylvania State Implementation Plan (SIP) regarding a redesignation request and maintenance plan for the Liberty-Clairton particulate matter 10 microns or less (PM_{10}) nonattainment area.[1] This area had been designated in 1990 as a moderate nonattainment area for the 1987 PM_{10} National Ambient Air Quality Standards (NAAQS). On September 11, 2003, the U. S. Environmental Protection Agency (EPA) approved the redesignation and maintenance plan, with an effective date of October 14, 2003.

According to Clean Air Act (CAA)[2] requirements, the maintenance plan portion of the redesignation request is designed to ensure continued attainment of the NAAQS for a 10-year period following redesignation, with an additional revision to the maintenance plan (i.e., a second maintenance plan) required for the 10-year period after expiration of the initial 10-year period. A second maintenance plan for the Liberty Clairton area has not yet been submitted since expiration of the initial 10-year period in 2013. The purpose of this current SIP revision is to provide a second maintenance plan for the Liberty-Clairton area through 2023.

Additionally, since the area has shown monitored data well below the NAAQS, and with little expected growth in motor vehicle emissions, this second maintenance also qualifies as a *limited* maintenance plan (LMP) for moderate PM_{10} areas.[3] The LMP option does not require projections of future emissions or certain transportation conformity determinations for the area.

This limited second maintenance plan addresses the following elements for the Liberty-Clairton area through 2023:

- Attainment Inventory
- Maintenance Demonstration
- Monitoring Network Verification of Continued Attainment
- Contingency Plan
- Approved SIP and Other Requirements

The 1987 NAAQS levels for PM_{10} were 50 µg/m³ on an annual basis and 150 µg/m³ on a 24-hour basis. Upon the revision of the particulate matter (PM) NAAQS in 2006, the annual

[1] This area was originally designated as "Allegheny County; the area including Liberty, Lincoln, Port Vue, and Glassport Boroughs and the City of Clairton." This area has also been referred to as the "Liberty Borough" area, the "Liberty Borough/Clairton" area, or the "Clairton and 4 Boroughs" area. For this maintenance plan, the area will be referred to as the "Liberty-Clairton" area, which is the name of the same area as designated for the $PM_{2.5}$ 1997 and 2006 NAAQS.

[2] https://www.epa.gov/air-quality-implementation-plans/sip-requirements-clean-air-act

[3] https://www.epa.gov/state-and-local-transportation/2001-limited-maintenance-plan-moderate-pm10-and-attachment

standard was revoked.[4] Therefore, this maintenance plan is applicable to the 24-hour standard only for continued maintenance of PM_{10} through 2023.

Last, while the PM_{10} SIP requirements remain in place for the Liberty-Clairton area, some sections of this LMP, including the attainment inventory and the monitoring network verification of continued attainment, supersedes those from the redesignation request and initial maintenance plan.

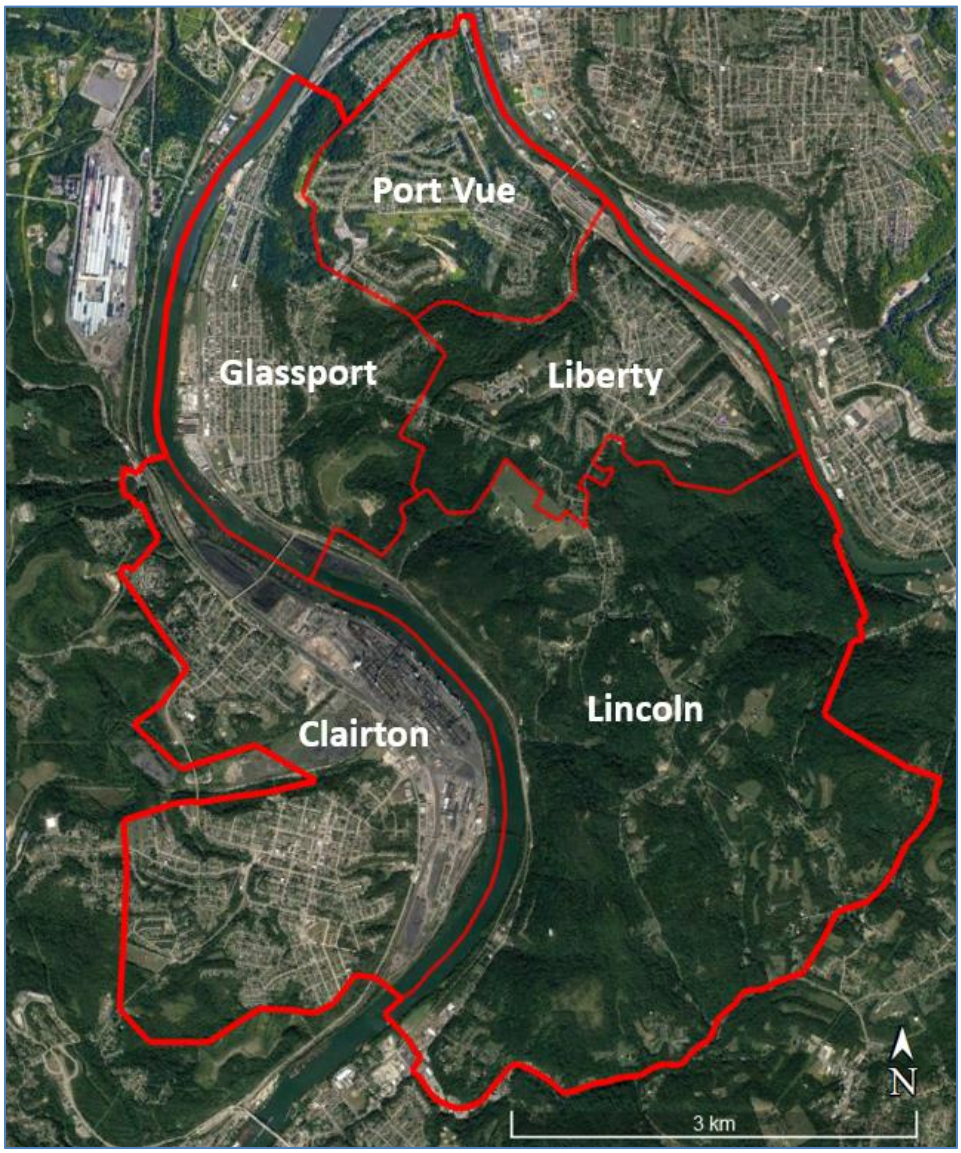
[4] https://www.epa.gov/pm-pollution/table-historical-particulate-matter-pm-national-ambient-air-quality-standards-naaqs

2. Description and History of Area

The Liberty-Clairton PM_{10} maintenance area includes the Boroughs of Glassport, Liberty, Lincoln, and Port Vue and the City of Clairton. Geographically, this represents the Clairton floodplain and the adjacent hilly region to the northeast between the Youghiogheny River and Monongahela Rivers. Although a relatively small area in size (12.6 square miles) compared to the rest of Allegheny County, it contains a diversity of land use that includes residential, industrial, and forested regions.

Figure 2-1 below shows an aerial map of the area, with the municipality names shown in white and the municipality borders shown in red.

Figure 2-1. Aerial Map of the Liberty-Clairton Area



In 1990, the area was designated nonattainment for the PM_{10} 1987 NAAQS based on monitored violations at sites in the area (see more under Section 4 Maintenance Demonstration). The largest industrial stationary point source in the area is the U. S. Steel (USS) Mon Valley Works (MVW) Clairton Plant, and controls for this source were the focus of the pollution controls for the area.

The PM_{10} attainment demonstration was developed by ACHD and submitted to EPA as SIP Revision 31 (ACHD, 1993),[5] along with the subsequent SIP Revision 34 for PM_{10} contingency measures (ACHD, 1995)[6] and SIP Revision 36 for PM_{10} regulations (ACHD, 1997)[7] to support the attainment demonstration. Emissions and resulting ambient air quality concentrations were lowered due to the permanent and enforceable controls included in the SIP revisions.

The area showed monitored attainment with 1995-1997 data, and a determination of attainment for the area was made by EPA in 1998.[8] The PM_{10} NAAQS (both the previous annual standard and the current 24-hour standard) have since not been violated at any site in the area. A violation of the 24-hour standard occurs when the number of expected exceedances, accounting for any missing data, is greater than 1.0 per year averaged over a consecutive 3-year period.

ACHD completed a resignation request and initial maintenance plan[9] for the area in 2002 (ACHD, 2002), which was approved by EPA in 2003.[10] The redesignation request provided evidence that the monitors achieved attainment due to permanent and enforceable reductions and according to all applicable CAA requirements. The coinciding maintenance plan provided information that the area would continue to attain the NAAQS for a 10-year period following the approval date of the redesignation.

This limited second maintenance plan provides information to support that the area has maintained attainment of the NAAQS since 2003 and will continue to attain the 24-hour NAAQS through 2023, which is the end of the 10-year period following the initial 10-year maintenance period. The information included in this second maintenance plan follows EPA's procedures and requirements for limited maintenance of PM_{10} areas (U.S. EPA, 2001).

[5] Approved by 61 FR 29664: https://www.govinfo.gov/content/pkg/FR-1996-06-12/pdf/96-14786.pdf

[6] Approved by 63 FR 47434: https://www.govinfo.gov/content/pkg/FR-1998-09-08/pdf/98-24040.pdf#page=1

[7] Approved by 63 FR 32126: https://www.govinfo.gov/content/pkg/FR-1998-06-12/pdf/98-15585.pdf

[8] Approved by 63 FR 47493: https://www.govinfo.gov/content/pkg/FR-1998-09-08/pdf/98-24039.pdf

[9] https://www.epa.gov/air-quality-implementation-plans/nonattainment-area-redesignation-and-clean-data-policy-cdp

[10] Approved by 68 FR 53515: https://www.govinfo.gov/content/pkg/FR-2003-09-11/pdf/03-23265.pdf#page=1

3. Attainment Inventory

Based on EPA guidance on redesignations and limited maintenance plans (U.S. EPA, 1992; U.S. EPA, 2001), a state/local agency should develop an attainment emissions inventory to identify the level of emissions in the area which is sufficient to attain the NAAQS. This inventory should be consistent with the EPA's most recent guidance on emission inventories for nonattainment areas and should represent emissions during the time period associated with the monitoring data showing attainment. The attainment inventory is generally the actual inventory at the time the area attained the standard.

3.1 Allowable Inventory

The PM_{10} SIP relied on an allowable emissions inventory that was used to demonstrate modeled attainment of the NAAQS. This inventory was focused on the USS Clairton Plant but also included surrounding stationary point sources in Allegheny County and surrounding counties. The inventory also included actual estimates of PM_{10} emissions from wood burning, public roads, and fugitive sources without permitted limits. The redesignation request and initial maintenance plan (ACHD, 2002) updated this allowable inventory for year 1999 as the attainment inventory for the initial maintenance plan.

This allowable inventory has become outdated, as nearly all sources have lower permitted emission rates for PM_{10} since the time of the redesignation request due to the installation of controls, equipment upgrades, fuel switches/restrictions, and other factors. Additionally, many sources have ceased operations. Notable changes to the allowable inventory include the following:[11]

- USS Clairton Plant: Modifications at USS Clairton include several equipment upgrades, fuel restrictions, the shutdown of Batteries 1-3 (replaced by C Battery), and new low-emission quench towers for Batteries 13-15 and 19-20. These modifications represent an overall reduction of 268 tons/year from the previous allowable inventory compared to the current permit limits (which do not include fugitive emissions).

- Allegheny County source modifications: Several large sources outside of the Liberty-Clairton area have installed emissions controls, fuel restrictions, and/or newer equipment. These sources include the USS MVW Irvin and Edgar Thomson Plants, the GenOn Cheswick and Brunot Island power plants, ATI Allegheny Ludlum, Heinz (now Riverbend), Neville Chemical, and others. These changes represent a total reduction of 3,146 tons/year from the previous allowable inventory.

- Allegheny County source shutdowns: Several large sources outside of the Liberty-Clairton area have ceased operation, including LTV Steel, Edgewater Steel, Shenango, Guardian, and others. These shutdowns represent a total reduction of 3,158 tons/year from the previous allowable inventory.

[11] Note: Emissions rates were given in units of pounds per hour (lb/hr) in the allowable inventory. Emissions given in this document have been converted to units of tons per year (tons/year).

- Surrounding county source shutdowns: Several large power plants outside of Allegheny County that were included in the 1999 allowable inventory have ceased operation: Elrama, Mitchell, Hatfield, and AES Beaver Valley. These shutdowns represent a total reduction of 6,416 tons/year from the previous allowable inventory.

The total reductions in permitted allowable rates since the time of the redesignation request represent an overall reduction of 12,989 tons/year of PM_{10} allowable emissions, which is about 55% lower than the previous allowable inventory.

An *attainment inventory* for this second maintenance plan is therefore somewhat inapplicable, since any updated inventory (either allowable or actual) would represent lower emissions than what was needed for attainment at the time of the SIP development. A more applicable inventory for this second maintenance plan could be considered a *maintenance emissions inventory* that would represent typical emissions that are showing continued attainment of the NAAQS.

Furthermore, based on the redesignation guidance (U.S. EPA, 1992), as well as current guidance for PM inventories (U.S. EPA, 2017), an appropriate inventory for the area would be an inventory that is based on actual emissions for all source sectors and for sources only within the area. An emissions inventory for the area based on a recent EPA National Emissions Inventory (NEI) year will be used as the emissions inventory for this LMP (details given below).

3.2 Maintenance Emissions Inventory

The EPA NEI includes fully-reviewed actual emissions inventories of all pollutants and sectors, as compiled on a triennial basis. The appropriate NEI inventory for this maintenance plan would be representative of typical emissions during which continued attainment has occurred since the expiration of the initial maintenance plan period in 2013, as well as current conditions that may incorporate growth of emissions from any sector since 2013.

Since 2013, there have been two NEI years that have been compiled: 2014 and 2017. Both years were typical for PM_{10} from the USS Clairton Plant (the largest source in the area), with similar primary emissions of PM_{10} from the plant (893 tons/year in 2014, and 876 tons/year in 2017). The 2017 NEI (U.S. EPA, 2020) will be used for the emissions inventory year since it is the most recent year.

The emissions inventory summary is given in Table 3-1, with a detailed version of the inventory by process/category given in Appendix A. The inventory includes emissions for total primary PM_{10}, the filterable and condensable fractions of the total primary PM_{10}, and precursors of PM_{10}.[12] For stationary point sources, emissions are from inventoried sources within the Liberty-Clairton area: USS Clairton, Tech Met, Koppers, and AKJ. For all other source sectors, since NEI emissions are allocated to county-level, the population percentage of the Liberty-Clairton

[12] Precursors of PM_{10} include sulfur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOC), and ammonia (NH_3).

area was used to scale down emissions from the county-level emissions. Based on U.S. Census population estimates for 2017,[13] Liberty-Clairton represented 1.5% of the total Allegheny County population.

Table 3-1. Emissions Inventory Summary for the Liberty-Clairton Area (tons/year), 2017

Liberty-Clairton (2017)	PM_{10}	PM_{10} (filt)	PM_{10} (cond)	SO_2	NO_x	VOC	NH_3
Stationary Point Sources	877.93	582.49	295.44	1,129.86	2,626.26	184.45	118.87
Area (Nonpoint) Sources	175.07	164.57	9.55	4.01	95.80	275.23	9.85
Nonroad Mobile Sources	4.33	4.33	0.00	0.10	37.83	33.19	0.09
Onroad Mobile Sources	10.48	10.48	0.00	0.83	94.11	57.41	3.60
Total	1,067.81	761.87	304.99	1,134.80	2,854.00	550.28	132.41

Note: For the emissions in Table 3-1 and in Appendix A, PM_{10} is given in terms of primary PM_{10} emissions (released into the air as a particle). For concentrations shown in this document, PM_{10} includes both primary and secondary components (chemically transformed from precursors).

Stationary point source emissions are the largest contributors of primary PM_{10} and precursors in the Liberty-Clairton area, with most emissions due to the USS Clairton Plant. Stationary point sources are industrial or commercial sources for which ACHD collects individual annual emissions, including major and minor sources with the potential to emit 25 tons/year or more of any criteria pollutant.

Area (or "nonpoint") sources account for moderate amounts of primary PM_{10} and VOCs in the Liberty-Clairton area. Area sources are industrial, commercial, and residential sources that are too small or too numerous to be inventoried individually, such as commercial and residential fuel combustion, solvent utilization, on-shore oil and gas production, agricultural activity, and other sources. Commercial diesel marine vessels and railroad locomotives, which are sometimes listed separately, have also been included in the area source inventory. Additionally, fire and biogenic emissions have been included in the area source inventory.

Mobile sources contribute to relatively small amounts of emissions in the Liberty-Clairton area. Nonroad mobile sources encompass a diverse collection of off-highway engines, such as outdoor power equipment, recreational vehicles, farm and construction machinery, lawn and garden equipment, industrial equipment, and other sources. Onroad mobile sources include passenger cars, light-duty trucks, heavy-duty trucks, buses, and motorcycles.

[13] Available at: https://www.census.gov/programs-surveys/popest/data/data-sets.html

4. Maintenance Demonstration

EPA guidance (U.S. EPA, 1992) outlines that a state/local agency may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory or by modeling to show that the future mix of sources and emission rates will not cause a violation of the NAAQS.

Under the LMP option (U.S. EPA, 2001), if monitored data from all sites are equal to or below specified test concentration level for 24-hour PM_{10} that most monitors have achieved nationwide, a projection of future emissions is not required. Transportation conformity analysis is also not needed if projected vehicle miles traveled (VMT) will not lead to a level above the specified test level. This maintenance demonstration therefore focuses on monitored data since the redesignation and projected future VMT growth. A discussion of expected conditions through 2023 has also been included as additional evidence that maintenance of the NAAQS will continue, with little growth expected from all sectors.

4.1 Monitored Data

EPA guidance requires that once an area has been redesignated, the state/local agency should continue to operate an appropriate air quality monitoring network in accordance with 40 CFR Part 58 to verify the attainment status of the area.

ACHD has operated PM_{10} monitors according to 40 CFR Part 58 requirements at four sites within the Liberty-Clairton area since submittal of the redesignation request in 2002. Figure 4-1 shows the locations of the monitor sites, with descriptions of the sites following the figure.

Figure 4-1. Monitor Sites in the Liberty-Clairton Area

Lincoln (AQS[14]code: 42-003-7004): Lincoln is a middle scale site, located atop a steep hill (Coursin Hill) on the east bank of the Monongahela River, in the immediate downwind direction from the USS Clairton Plant. This site has historically been the high location for annual average PM_{10} concentrations in the area, but Liberty and Glassport can show similar or higher short-term concentrations, depending on meteorological conditions. The Lincoln monitor is a Federal Equivalent Method (FEM) continuous monitor for PM_{10}. Lincoln last exceeded the 24-hour PM_{10} NAAQS in 2005.

Liberty (AQS code: 42-003-0064): This site is a neighborhood scale site, located on the rooftop of South Allegheny High School near the center of the Liberty-Clairton area. This site lies in a populated area further downwind from USS Clairton than the Lincoln site. Liberty is a multi-pollutant site, featuring several other pollutant monitors, including SO_2, $PM_{2.5}$, and toxics. The site has also included both Federal Reference Method (FRM) filter-based monitors, primary and duplicate (for quality assurance), and a FEM continuous monitor for PM_{10} during the maintenance timeframe. Liberty last exceeded the 24-hour PM_{10} NAAQS in 1995.

Glassport (AQS code: 42-003-3006): Similar to Liberty, this is a neighborhood scale site in a populated area downwind from USS Clairton. The site is located at the High Street water tower in Glassport, to the west of Liberty. It can show similar results to Liberty and/or Lincoln, depending on meteorological conditions. The Glassport monitor is a FEM continuous monitor for PM_{10}. Glassport last exceeded the 24-hour PM_{10} NAAQS in 1997.

Clairton (AQS code: 42-003-3007): This is a neighborhood site in the southwestern portion of the area, located at the Clairton Educational Center, in the general upwind direction from the USS Clairton Plant. It has included filter-based monitoring only, while the other sites have had continuous FEM monitors (or at Liberty, both FRM and FEM), but it also features a $PM_{2.5}$ monitor at the site. Clairton has never exceeded the 24-hour PM_{10} NAAQS.

Figures 4-2 and 4-3 show the yearly annual average and maximum 24-hour PM_{10} concentrations at each site, respectively, for the timeframe of 2001 to 2020[15] with former annual and current 24-hour NAAQS levels indicated by the red lines. For Liberty, which has more than one monitor type, the highest yearly average of the primary FRM or FEM monitor is shown, and the highest yearly 24-hour maximum of the primary FRM, duplicate FRM, or FEM monitor is shown. (More detailed monitored results by each monitor type are given in Appendix B for the timeframe of 2001-2020.)

[14] EPA's Air Quality System database of monitored data.

[15] All 2020 concentrations have been fully validated, quality-assured, submitted to AQS, and requested for certification.

Figure 4-2. Yearly Annual Average PM_{10} Concentrations (in µg/m³) by Site, 2001-2020

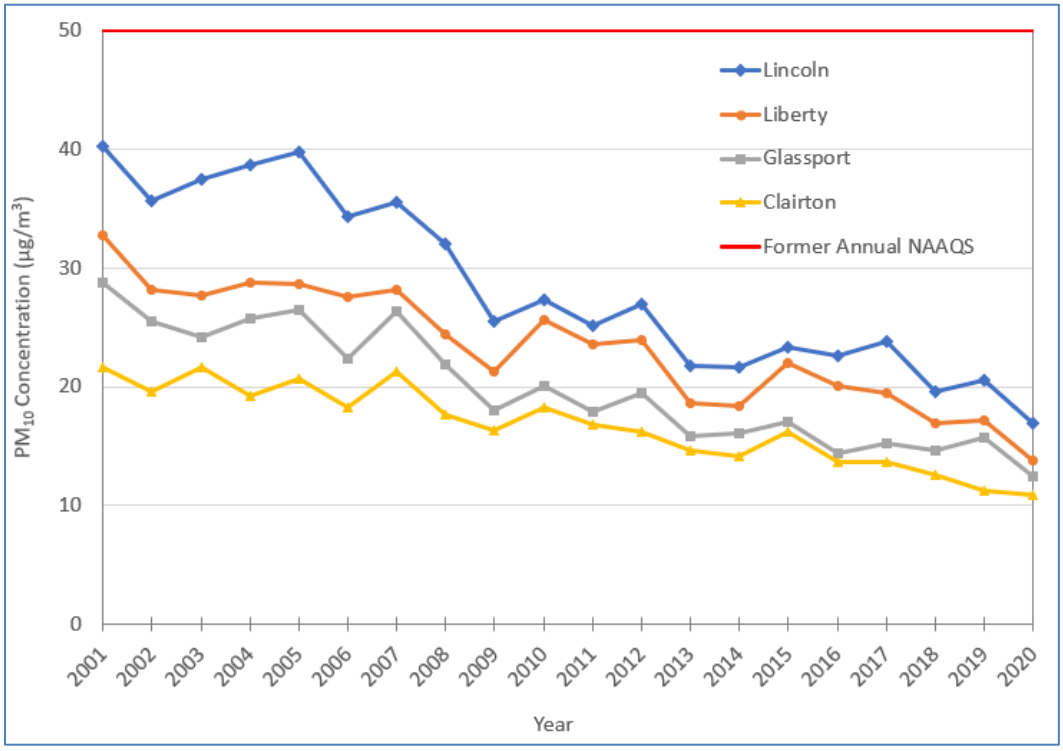
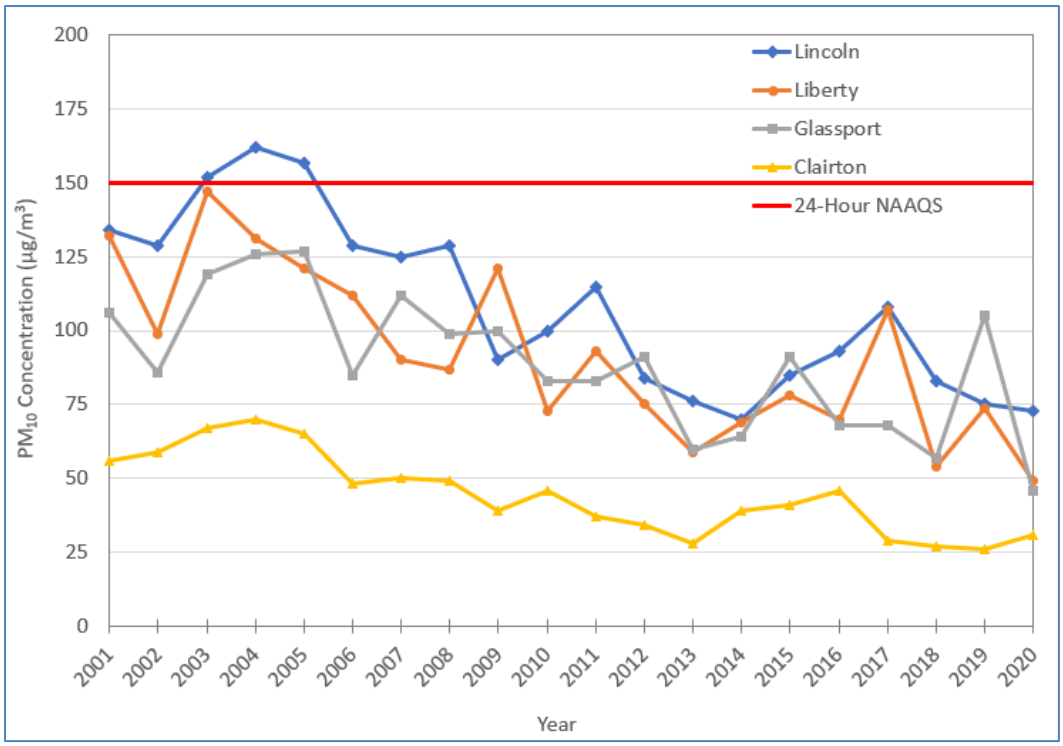


Figure 4-3. Yearly Maximum 24-Hour PM_{10} Concentrations (in µg/m³) by Site, 2001-2020



All sites have shown monitored data well below the former annual NAAQS (50 µg/m³) and current 24-hour NAAQS (150 µg/m³), along with continued downward trends over the past two decades. Maximum 24-hour concentrations can occur at any one of the downwind sites (Lincoln, Glassport, Liberty) from year to year, while Clairton consistently shows the lowest concentrations in the area.

There are also strong correlations between downwind sites for 24-hour PM_{10} concentrations. Table 4-1 below shows the Pearson correlation coefficients (r) for the downwind sites in the area, based on FEM monitor data over the timeframe 2001-2020.

Table 4-1. Correlations between Liberty-Clairton Downwind Sites, 2001-2020

Site Correlations	Correlation Coefficient (r)
Liberty:Glassport	0.89
Glassport:Lincoln	0.84
Lincoln:Liberty	0.85

The monitored results show that the monitor network has sufficiently covered both the downwind and upwind regions of the Liberty-Clairton area for short-term PM_{10} concentrations, along with some redundancy for sites in the downwind region.

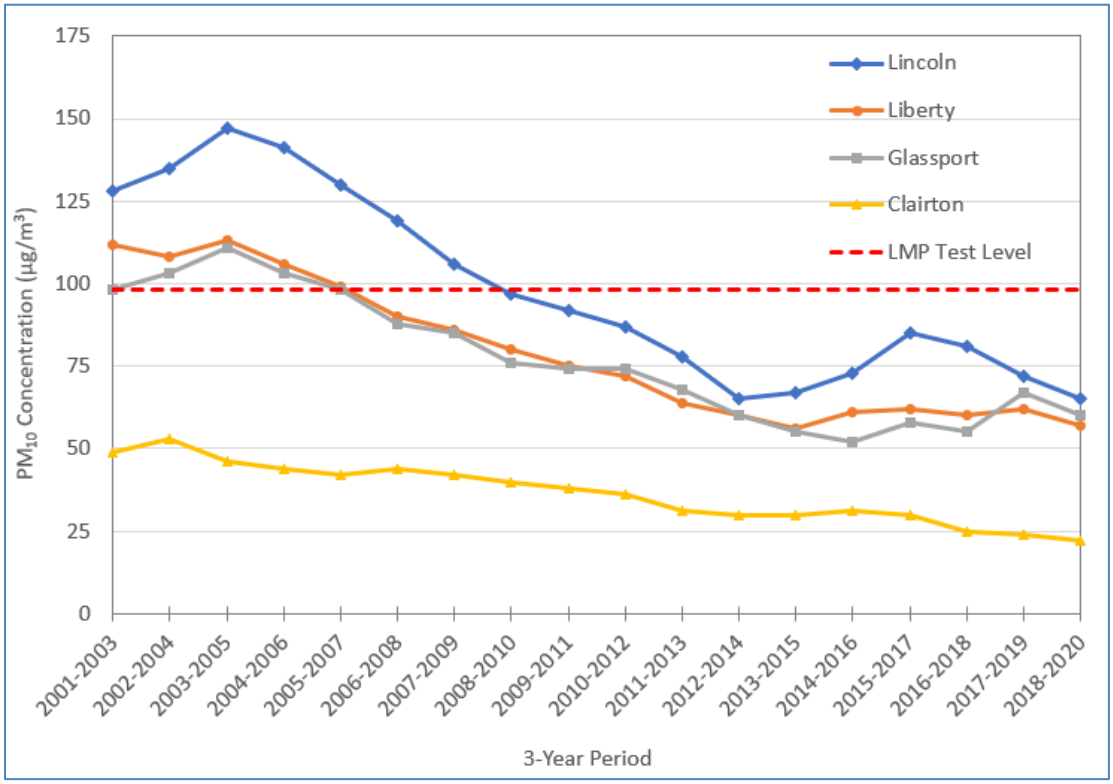
There is low probability of a future violation of the 24-hour NAAQS. For a violation to occur, there would need to be an average of more than 1.0 exceedance per year over a 3-year average basis, which would appear to be unlikely based on data through 2020. Under the LMP option, based on the most recent five years of monitored data, if 24-hour design values[16] for each site are equal to or below the specified test level of 98 µg/m³, and there have been no violations of the 24-hour NAAQS at any site, it can be assumed that the area is demonstrating maintenance of the 24-hour NAAQS.

Figure 4-4 shows the 24-hour design values for the Liberty-Clairton sites over the timeframe 2001-2020 with the LMP test level of 98 µg/m³ shown as the red dotted line. These design values were calculated as the 3-year averages of the yearly 2nd-highest 24-hour PM_{10} concentration at each site.[17] For Liberty, which had more than more monitor type at the site, the highest 2nd-highest concentration from any monitor (FRM or FEM) was used for design value calculations.

[16] The 24-hour PM_{10} NAAQS is based on expected exceedances, but a design value in the form of a concentration can be derived in different ways (U.S. EPA, 1987). Since one exceedance per year is allowed over a 3-year period, one appropriate method for calculation of a design value is to average the yearly 2nd-highest concentrations over a 3-year period.

[17] This method was used by EPA for PM_{10} design values that were included in the NetAssess2020 tool for monitored network assessments. (https://sti-r-shiny.shinyapps.io/EPA_Network_Assessment/)

Figure 4-4. 24-Hour PM_{10} Design Value Concentrations (in µg/m³) by Site, 2001-2020



All sites are showing design values over the past five years that are below the LMP test level for 24-hour concentrations, and there have been no violations of the NAAQS. Lincoln showed the highest 3-year design value in the past five years, with a value of 85 µg/m³ for 2015-2017. This value will also be used as the design value for the motor vehicle analysis test (see the next section).

ACHD will recalculate the design values on an annual basis to verify that the Liberty-Clairton area still qualifies for the LMP option. If the test cannot be met (i.e., if any site shows a design value above 98 µg/m³), then the area would no longer qualify for the LMP option, and ACHD would submit a full maintenance plan for the area according to CAA 175A within one year after the determination of the design value[18] above the test level.

4.2 Motor Vehicle Emissions and Transportation Conformity

Transportation conformity ensures that allocated vehicle emissions from highway transportation projects fall below emissions levels that are included in attainment plans. According to the Code of Federal Regulations (CFR), 40 CFR Part 93, conformity applies to areas in which transportation-related PM_{10} and precursor emissions are significant contributors to the area.

[18] A determination would be based on fully validated and quality-assured monitored results as submitted by ACHD to EPA. Data may or may not be fully certified at the time of the determination, due to the time required for certification.

The LMP option assumes that an area expects only limited growth in mobile source emissions of PM_{10}. A regional motor vehicle analysis for conformity is not required if it can be shown that expected growth in VMT would not cause an increase above a margin of safety level of 98 µg/m³ (similar to the test used for the design values). The following equation is used as a test for motor vehicle emissions growth:

$$DV + (VMT_{pi} \times DV_{mv}) \leq MOS$$

Where:

- DV = the area's design value based on the most recent 5 years (in µg/m³)
- VMT_{pi} = the projected increase of vehicle miles traveled (VMT) over the next 10 years (as a fraction)
- DV_{mv} = motor vehicle design value based on the onroad mobile portion of the attainment year inventory (in µg/m³)
- MOS = margin of safety for the 24-hour NAAQS (98 µg/m³)

And:

- DV_{mv} is derived by multiplying the DV by the fraction of the attainment year inventory represented by onroad mobile sources, including re-entrained road dust, based on both primary PM_{10} and precursor emissions

From Section 4.1 above, the DV for the area is 85 µg/m³. From the emissions inventory in Section 3.2 above, onroad emissions of primary PM_{10} and precursors represent 166.42 tons/year in the area. To account for re-entrained road dust, an additional 125.22 tons/year of emissions from the construction and road dust categories[19] in the area source inventory can be added (see Appendix A, Table A-2), for a total of 291.65 tons/year. The total onroad and re-entrained road dust represents 5.1% of the total inventory, for a DV_{mv} of 4.3 µg/m³.

Using VMT projections developed by Southwestern Pennsylvania Commission (SPC, 2020) for Allegheny County, an increase of 3.6% in VMT can be expected through 2031.[20] The resulting calculation from the above equation leads a value of 85.2 µg/m³, below the MOS of 98 µg/m³.

As mentioned in Section 4.1, ACHD will recalculate the design values on an annual basis. The motor vehicle emissions test will also be recalculated annually using the updated maximum design value over the past five years for the area. If the test cannot be met (i.e., the equation shows a value above the MOS), ACHD would submit a full maintenance plan for the area according to CAA 175A requirements within one year after the determination of the updated design values.

[19] As a conservative approach, since construction dust may be associated with transportation projects, emissions from both the construction dust and road dust categories has been included as re-entrained dust.

[20] Although this LMP applies to maintenance only through 2023, a VMT projection through a 10-year timeframe was used a conservative approach. The projection for 2031 was calculated as an interpolation of the 2025 and 2035 VMT projections. Additionally, since there are no projections specific to the Liberty-Clairton area, projections for Allegheny County were used to represent the area.

Transportation conformity for PM_{10} for the area will continue to follow procedures such as interagency consultation, according to the Transportation Conformity Rule. In addition, transportation conformity applies in the area for other pollutants, such as $PM_{2.5}$ and ozone. The only major transportation project that has been planned near the area is the Mon-Fayette Expressway, Pittsburgh Extension. This project, as described in the previous maintenance plan (ACHD, 2002), would extend the expressway from PA Route 51 in Jefferson Hills to I-376 in Monroeville, with large sections to be constructed in Jefferson Hills and West Mifflin to the west of the Liberty-Clairton area. This project has experienced several delays however, and construction is not expected to begin until 2024.[21]

4.3 Expected Emissions

There is little growth in emissions expected for the Liberty-Clairton area through the end of the maintenance period in 2023. Several factors that support the assumption of lower emissions and continued maintenance for the area are summarized below:

- A settlement agreement and order (#19060, signed July 2019) between ACHD and U. S. Steel includes several repairs, upgrades, and enhanced work practices that will further reduce PM_{10} and precursors from the Mon Valley Works plants through 2023.

- USS has announced plans to install new cogeneration and endless casting facilities at the USS Mon Valley Works, leading to reductions in PM_{10} and precursors. Completion dates of the installations are unknown at this time but may be expected through 2023.[22]

- ACHD is developing regulations for the mitigation of air pollutants during extended stagnation periods. These periods can lead to prolonged elevated short-term levels of PM_{10} in the Liberty-Clairton area. The regulations are expected to be finalized in 2021.

- ACHD and PA DEP are currently revising regulations for the maximum allowable sulfur content in No. 2 commercial fuel oil used in combustion equipment. The new lower limit of 15 ppm (0.0015%) will replace the former limit of 500 ppm (0.05%), leading to lower emissions of SO_2 as a precursor of PM_{10} throughout PA. These regulations are expected to be finalized in 2021.

- Federal, state, and local rules and regulations already in place for fuel and/or equipment restrictions from area, nonroad mobile, and onroad mobile source sectors will continue to lead to reductions in overall emissions of PM_{10} and precursors within Allegheny County and PA.

[21] https://www.post-gazette.com/news/transportation/2020/09/01/Mon-Fayette-Expressway-PA-Turnpike-Duquesne-Jefferson-Hills-Monroeville-funding/stories/202009010155

[22] https://www.post-gazette.com/business/career-workplace/2020/03/27/U-S-Steel-Corp-pauses-1-billion-Mon-Valley-Works-construction-coronavirus-COVID-19/stories/202003270109

- ACHD currently manages several programs to address the reduction of PM from wood burning activities. These include local regulations for wood burning and wood burning equipment, voluntary changeout programs for county residents, and educational campaigns. Reductions in PM_{10} from these programs were not quantified for this LMP, but continued reductions throughout Allegheny County can be expected due to these programs.

- There are no new major sources currently planned for the Liberty-Clairton area through 2023. Due to the time required for planning and construction, is unlikely that any new major source within the Liberty-Clairton area could be completed by the end of 2023.

Considering the planned controls on the way for PM_{10} and precursor emissions, as well as the lack of new sources planned for the area, future case emissions through 2023 should be similar to current conditions.

4.4 Population Decline

In addition to the above factors in Section 4.3, the Pittsburgh region has shown decline in population over the past several years. The overall decrease in population has led to less anthropogenic emissions from vehicles, wood burning, power consumption, and other sources of PM_{10} and precursors.

Table 4-2 shows the U.S. Census Bureau population counts for 2010, population estimates for 2015 and 2019,[23] and population projections for 2020 and 2025[24] for the Liberty-Clairton area and for Allegheny County.

Table 4-2. Population Counts, Estimates, and Projections, 2010-2025

Area	Census 2010	Estimated 2015	Estimated 2019	Projected 2020	Projected 2025
Liberty-Clairton Area	18,700	18,460	17,983	17,886	17,729
Allegheny County	1,223,348	1,228,827	1,216,045	1,229,020	1,250,185

The Liberty-Clairton area has shown a continued decline in population that is expected to continue through 2025. Allegheny County has also declined in population through 2019, although some increase in population is projected through 2025 (a change of 2.8% from 2019 to 2025). Small increases in population in the surrounding region, which are expected mainly in the suburban areas away from the industrial valleys, should have a minimal effect on the Liberty-Clairton area.

[23] Available at: https://www.census.gov/data/tables/time-series/demo/popest/2010s-counties-total.html https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-cities-and-towns.html

[24] Available at: https://www.spcregion.org/resources-tools/regional-data-center/

5. Monitoring Network Verification of Continued Attainment

EPA guidance recommends that ambient monitored concentrations and source emission data can be used to track the attainment and maintenance of the NAAQS, as well as assumptions used in modeling for the maintenance demonstration. Under the LMP option, since future case emissions were not modeled, only monitored data will be used for verification of attainment.

ACHD will track the attainment status of the Liberty-Clairton area for the 24-hour PM_{10} NAAQS by reviewing monitored air quality concentrations during the maintenance period through 2023. ACHD will continue to operate the air monitoring network in accordance with 40 CFR Part 58 to verify the attainment status of the area, with no changes to the existing network unless pre-approved by EPA. As mentioned in the Overview (Section 1), this section supersedes the verification of continued attainment section in the initial maintenance plan. Monitored data will also be the mechanism for the trigger of contingency measures, should any monitor violate the NAAQS through 2023 (see the next section).

Additionally, under ACHD's Prevention of Significant Deterioration (PSD) program, major new sources and modifications with PM_{10} emissions must demonstrate via a modeling demonstration for the new or modified source and nearby background sources that emission changes will not cause or contribute to a violation of the 24-hour PM_{10} NAAQS and increment. New minor PM_{10} sources will also be evaluated to ensure maintenance of the area. ACHD will not approve modifications that would lead to modeled values greater than the NAAQS.

6. Contingency Plan

Section 175A of the CAA requires a maintenance plan to include contingency provisions, as necessary, to promptly correct any violation of the NAAQS that occurs after redesignation of the area. The contingency plan is an enforceable part of the SIP and should ensure that the contingency measures are adopted expediently once they are triggered. The contingency plan should clearly identify the measures to be adopted, a schedule and procedure for adoption and implementation, and a specific time limit for action.

6.1 Contingency Measures

The contingency measures for this maintenance plan are identical to those included in the PM_{10} SIP (ACHD, 1995). The contingency measures were approved in 1998 and are included in the Allegheny County Article XXI Rules and Regulations under §2105.21.e.6 (ACHD, 2020). The contingency measures have not been implemented at any time since the SIP was approved. The contingency measures require that the USS Clairton Plant improves the capture of pushing emissions from its coke batteries. If the measures are implemented, all batteries except B and C Batteries (which feature different designs than the other batteries) must hold the hood of the pushing emission control device (PEC) over the hot coke for the longer of the two following periods of time:

- 67 seconds immediately after the pusher ram begins to move and the damper to the PEC device is opened, or
- 15 seconds immediately following the fall of the last of the coke into the hot car.

6.2 Triggering Indicator

Under the CAA requirements for maintenance plans in 172(c)(9) and 175(d), EPA requires that contingency measures be promptly put into place to correct an area violation without any action from EPA. Within 60 days after determination of a violation of the 24-hour PM_{10} NAAQS[25] at any monitor site in the Liberty-Clairton area, the PM_{10} contingency measures will be implemented. The quality assured monitors within the Liberty-Clairton area will serve as the indicators for the triggering of contingency measures through 2023.

6.3 Alternative Contingency Measures

At any time prior to a violation of the PM_{10} NAAQS, the County may establish an alternative contingency measure, or combination of measures, to that of the above measures, subject to demonstrating to the satisfaction of EPA that the alternative measure(s) being proposed would provide an air quality and public health benefit equal to or greater than that resulting from the implementation of the measures described above.

[25] A violation of the NAAQS would be determined by EPA from fully validated and quality-assured monitored results as submitted by ACHD. Data may or may not be fully certified at the time of the determination, due to the time required for certification. A violation would be a 3-year average of expected exceedances of the 24-hour PM_{10} NAAQS that is greater than 1.0.

7. Approved SIP and Other Requirements

In accordance with the CAA, areas seeking to use the LMP approach for maintenance must have an attainment plan that has been approved by EPA, pursuant to section 107(d)(3)(E). The LMP should clearly indicate that all controls that were relied on to demonstrate attainment will remain in place and that Section 110 and Part D of the CAA have been satisfied.

7.1 PM_{10} SIP Controls

The PM_{10} SIP for the Liberty-Clairton area was fully approved by EPA and identified local control strategies to bring the area into compliance for PM_{10} (ACHD, 1993; ACHD, 1997). Control strategies from the PM_{10} SIP included the following:

- Fuel-burning/combustion limits for processes in general, as well as specific processes
- PM_{10} emissions standards and operating restrictions at specific sources located in and impacting the nonattainment area, including coke oven gas sources and fugitive sources at the USS MVW plants
- An episode plan, based on the USS Clairton Plant Self-Audit Plan, to be followed during periods of high PM_{10} levels
- Restrictions for (now prohibition of) coal use for USS Clairton boilers
- Installation of mist eliminators on cooling towers
- Installation of big plug doors on selected batteries
- Development of coal handling procedures

These controls were permanent and enforceable, and they remain in place with no plans to roll back or eliminate any controls for the duration of the second maintenance period through 2023.

7.2 Section 110 and Part D Requirements

Section 110(a)(2) of the CAA contains the general requirements for nonattainment plans, and Sections 172(c), 176(c)(4)(C), and 188-189 of Part D of the CAA contain the requirements that should be satisfied for redesignation requests.

The applicable requirements of Section 110, including Section 110(a)(2), are satisfied by Allegheny County's portion of the PA SIP approved in 1981, and its subsequent amendments. Also included in Section 110 is the requirement to satisfy Part C of the CAA, Prevention of Significant Deterioration of Air Quality. The Allegheny County portion of the PA SIP was revised in October 1983, by the addition of Section 809 to Article XX, Allegheny County Health Department's Rules and Regulations for Air Pollution Control. Section 809 adopted in entirety, and incorporated by reference, the PSD requirements of 40 CFR 52.

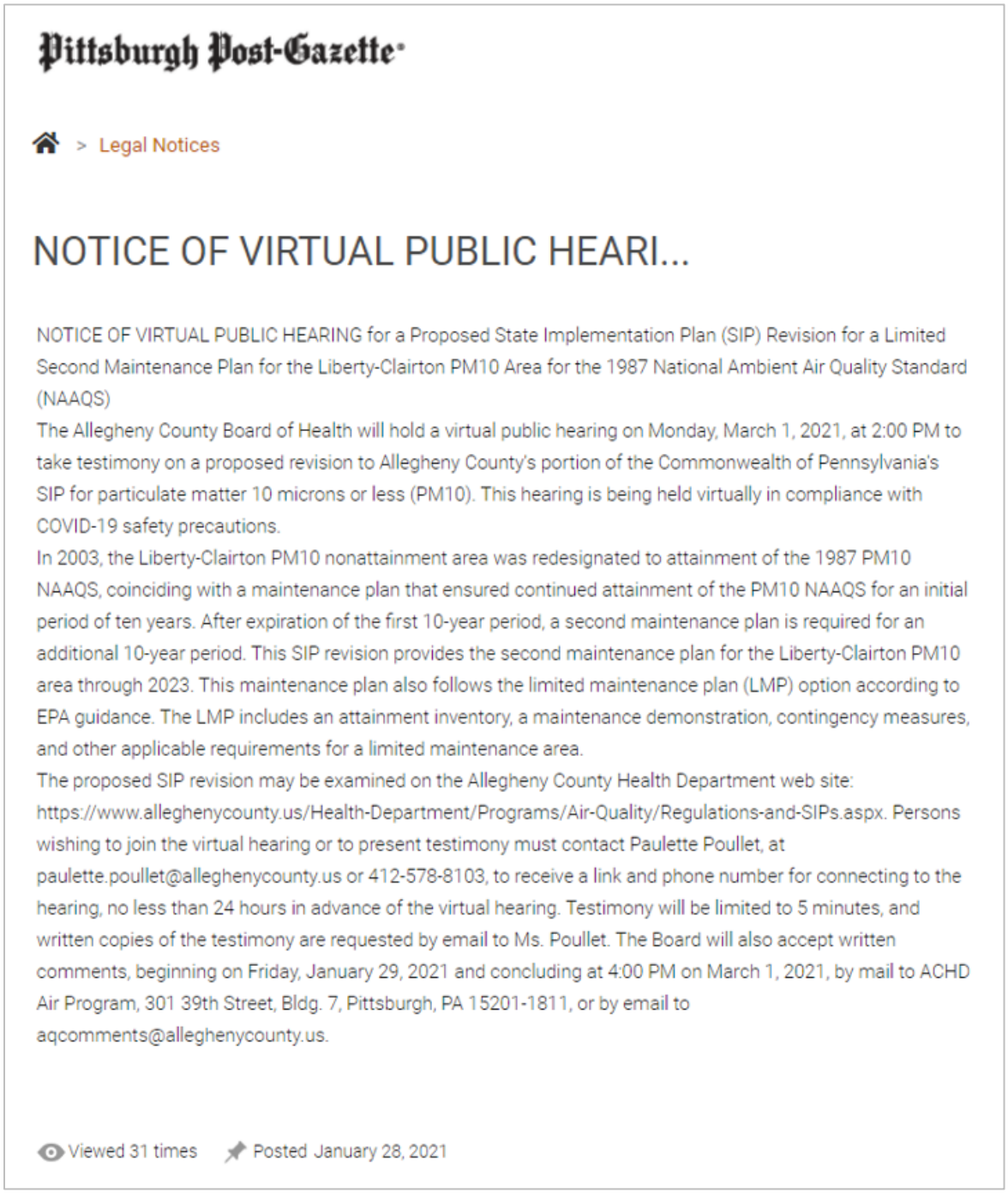
Section 172(c) requirements in Subpart 1 of Part D addresses nonattainment areas in general and describes the nonattainment plan provisions specifically. The requirements of Section 172(c) have been met by the PM_{10} SIP revisions, monitored attainment of the area, and the approval of the redesignation request.

Section 176(c)(4)(C) of Part D requires each state to establish a transportation conformity process. The Commonwealth of Pennsylvania adopted a conformity SIP which was approved by EPA with an effective date of June 29, 2009. This SIP satisfies all applicable transportation conformity process requirements for designated nonattainment and maintenance areas under the NAAQS for ozone, particulate matter (PM_{10} and $PM_{2.5}$), and carbon monoxide.

Sections 188-189 in Subpart 4 of Part D addresses specific provisions for PM_{10} nonattainment areas. Similar to the Section 172(c) requirements, the Sections 188-189 requirements have been met by the PM_{10} SIP revisions, monitored attainment of the area, and the approval of the redesignation request.

8. Legal Documents

8.1 Notice of Public Hearing and Comment Period



Pittsburgh Post-Gazette

> Legal Notices

NOTICE OF VIRTUAL PUBLIC HEARI...

NOTICE OF VIRTUAL PUBLIC HEARING for a Proposed State Implementation Plan (SIP) Revision for a Limited Second Maintenance Plan for the Liberty-Clairton PM10 Area for the 1987 National Ambient Air Quality Standard (NAAQS)

The Allegheny County Board of Health will hold a virtual public hearing on Monday, March 1, 2021, at 2:00 PM to take testimony on a proposed revision to Allegheny County's portion of the Commonwealth of Pennsylvania's SIP for particulate matter 10 microns or less (PM10). This hearing is being held virtually in compliance with COVID-19 safety precautions.

In 2003, the Liberty-Clairton PM10 nonattainment area was redesignated to attainment of the 1987 PM10 NAAQS, coinciding with a maintenance plan that ensured continued attainment of the PM10 NAAQS for an initial period of ten years. After expiration of the first 10-year period, a second maintenance plan is required for an additional 10-year period. This SIP revision provides the second maintenance plan for the Liberty-Clairton PM10 area through 2023. This maintenance plan also follows the limited maintenance plan (LMP) option according to EPA guidance. The LMP includes an attainment inventory, a maintenance demonstration, contingency measures, and other applicable requirements for a limited maintenance area.

The proposed SIP revision may be examined on the Allegheny County Health Department web site: https://www.alleghenycounty.us/Health-Department/Programs/Air-Quality/Regulations-and-SIPs.aspx. Persons wishing to join the virtual hearing or to present testimony must contact Paulette Poullet, at paulette.poullet@alleghenycounty.us or 412-578-8103, to receive a link and phone number for connecting to the hearing, no less than 24 hours in advance of the virtual hearing. Testimony will be limited to 5 minutes, and written copies of the testimony are requested by email to Ms. Poullet. The Board will also accept written comments, beginning on Friday, January 29, 2021 and concluding at 4:00 PM on March 1, 2021, by mail to ACHD Air Program, 301 39th Street, Bldg. 7, Pittsburgh, PA 15201-1811, or by email to aqcomments@alleghenycounty.us.

Viewed 31 times Posted January 28, 2021

8.2 Transmittals of Public Hearing Notice to PA DEP and EPA Region 3

COUNTY OF ALLEGHENY

RICH FITZGERALD
COUNTY EXECUTIVE

January 28, 2021

Mr. Mark Hammond, Director
Pennsylvania Department of Environmental Protection
Bureau of Air Quality
Rachel Carson Building
400 Market St., P.O. Box 8468
Harrisburg, PA 17105-8468

Dear Mr. Hammond:

Enclosed is a Notice of Public Hearing for a proposed revision to the Allegheny County portion of the Pennsylvania State Implementation Plan (SIP) regarding a Limited Second Maintenance Plan for the Liberty-Clairton area for the 1987 PM_{10} National Ambient Air Quality Standards (NAAQS).

With this SIP revision, the Allegheny County Health Department (ACHD) Air Quality Program (AQP) is providing a plan for continued maintenance of the PM_{10} 24-hour NAAQS for the Liberty-Clairton area through 2023. The maintenance plan follows a Limited Maintenance Plan (LMP) approach, based on monitored values and expected growth in motor vehicle emissions.

The proposed SIP revision is available for download at: https://www.alleghenycounty.us/Health-Department/Programs/Air-Quality/Regulations-and-SIPs.aspx. This revision will be requested for submittal to the U.S. Environmental Protection Agency (EPA) for approval following public comment and is being tracked under our internal Revision Tracking Number 48A. The public comment period begins January 29, 2021 and concludes March 1, 2021 at 4:00 PM. Your comments are welcome.

Sincerely,

Sandra Etzel, Manager
ACHD AQP, Planning and Data Analysis Section

cc: Kirit Dalal, PA DEP
Steve Hepler, PA DEP

Enclosure: Public Hearing Notice, January 28, 2021

DEBRA BOGEN, MD, DIRECTOR
ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM
301 39TH STREET • CLACK HEALTH CENTER • BUILDING 7
PITTSBURGH, PA 15201-1811
PHONE (412) 578-8103 • FAX (412) 578-8144
24-HR (412) 687-ACHD (2243)
WWW.ALLEGHENYCOUNTY.US/HEALTHDEPARTMENT

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COUNTY OF ALLEGHENY

RICH FITZGERALD
COUNTY EXECUTIVE

January 28, 2021

Ms. Cristina Fernandez, Director
U.S. Environmental Protection Agency
Air Protection Division
Region 3 (3AP00)
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Ms. Fernandez:

Enclosed is a Notice of Public Hearing for a proposed revision to the Allegheny County portion of the Pennsylvania State Implementation Plan (SIP) regarding a Limited Second Maintenance Plan for the Liberty-Clairton area for the 1987 PM_{10} National Ambient Air Quality Standards (NAAQS).

With this SIP revision, the Allegheny County Health Department (ACHD) Air Quality Program (AQP) is providing a plan for continued maintenance of the PM_{10} 24-hour NAAQS for the Liberty-Clairton area through 2023. The maintenance plan follows a Limited Maintenance Plan (LMP) approach, based on monitored values and expected growth in motor vehicle emissions.

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Sincerely,

Sandra Etzel, Manager
ACHD AQP, Planning and Data Analysis Section

cc: Michael Gordon, EPA Region 3
Maria Pino, EPA Region 3

Enclosure: Public Hearing Notice, January 28, 2021

DEBRA BOGEN, MD, DIRECTOR
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Advancing public health performance

8.3 Proof of Publication of Notice

No._____ Term,_____

Proof of Publication of Notice in Pittsburgh Post-Gazette

Under Act No 587, Approved May 16, 1929, PL 1784, as last amended by Act No 409 of September 29, 1951

Commonwealth of Pennsylvania, County of Allegheny, ss D. Rullo, being duly sworn, deposes and says that the Pittsburgh Post-Gazette, a newspaper of general circulation published in the City of Pittsburgh, County and Commonwealth aforesaid, was established in 1993 by the merging of the Pittsburgh Post-Gazette and Sun-Telegraph and The Pittsburgh Press and the Pittsburgh Post-Gazette and Sun-Telegraph was established in 1960 and the Pittsburgh Post-Gazette was established in 1927 by the merging of the Pittsburgh Gazette established in 1786 and the Pittsburgh Post, established in 1842, since which date the said Pittsburgh Post-Gazette has been regularly issued in said County and that a copy of said printed notice or publication is attached hereto exactly as the same was printed and published in the regular editions and issues of the said Pittsburgh Post-Gazette a newspaper of general circulation on the following dates, viz:

28 of January, 2021

Affiant further deposes that he/she is an agent for the PG Publishing Company, a corporation and publisher of the Pittsburgh Post-Gazette, that, as such agent, affiant is duly authorized to verify the foregoing statement under oath, that affiant is not interested in the subject matter of the afore said notice or publication, and that all allegations in the foregoing statement as to time, place and character of publication are true.

PG Publishing Company

Sworn to and subscribed before me this day of:
January 28, 2021

Commonwealth of Pennsylvania - Notary Seal
Karen Flaherty, Notary Public
Allegheny County
My commission expires November 16, 2024
Commission number 1386128
Member, Pennsylvania Association of Notaries

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I hereby certify that the foregoing is the original Proof of Publication and receipt for the Advertising costs in the subject matter of said notice.

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Attorney For

COPY OF NOTICE OR PUBLICATION

NOTICE OF VIRTUAL PUBLIC HEARING for a Proposed State Implementation Plan (SIP) Revision for a Limited Second Maintenance Plan for the Liberty-Clairton PM10 Area for the 1987 National Ambient Air Quality Standard (NAAQS)

The Allegheny County Board of Health will hold a virtual public hearing on Monday, March 1, 2021, at 2:00 PM to take testimony on a proposed revision to Allegheny County's portion of the Commonwealth of Pennsylvania's SIP for particulate matter 10 microns or less (PM10). This hearing is being held virtually in compliance with COVID-19 safety precautions.

In 2003, the Liberty-Clairton PM10 nonattainment area was redesignated to attainment of the 1987 PM10 NAAQS, coinciding with a maintenance plan that ensured continued attainment of the PM10 NAAQS for an initial period of ten years. After expiration of the first 10-year period, a second maintenance plan is required for an additional 10-year period. This SIP revision provides the second maintenance plan for the Liberty-Clairton PM10 area through 2023. This maintenance plan also follows the limited maintenance plan (LMP) option according to EPA guidance. The LMP includes an attainment inventory, a maintenance demonstration, contingency measures, and other applicable requirements for a limited maintenance area.

The proposed SIP revision may be examined on the Allegheny County Health Department web site: https://www.alleghenycounty.us/Health-Department/Programs/Air-Quality/Regulations-and-SIPs.aspx. Persons wishing to join the virtual hearing or to present testimony must contact Paulette Poulet, at paulette.poulet@alleghenycounty.us or 412-578-8103, to receive a link and phone number for connecting to the hearing, no less than 24 hours in advance of the virtual hearing. Testimony will be limited to 5 minutes, and written copies of the testimony are requested by email to Ms. Poulet. The Board will also accept written comments, beginning on Friday, January 29, 2021 and concluding at 4:00 PM on March 1, 2021, by mail to ACHD Air Program, 301 39th Street, Bldg. 7, Pittsburgh, PA 15201-1811, or by email to acommments@alleghenycounty.us.

8.4 Certification of Public Hearing

Revision 48A

Limited Second Maintenance Plan for the Liberty-Clairton
PM_{10} Area for the 1987 NAAQS

Certification of Hearing

Jason M. Maranche deposes and says that he is an Air Quality Engineer in the Air Quality Program of the Allegheny County Health Department and hereby certifies that a Virtual Public Hearing was held on March 1, 2021, regarding a Limited Second Maintenance Plan (LMP) for the Liberty-Clairton PM_{10} area for the 1987 National Ambient Air Quality Standards (NAAQS); that these changes are to be incorporated as a change to Allegheny County's portion of the Pennsylvania State Implementation Plan (SIP) for the attainment and maintenance of the NAAQS; that the opportunity for written comments was given in accordance with the requirements of 40 CFR 51.102; that notice of such hearing was given by publication in a newspaper of general circulation on January 29, 2021; and, to the best of his knowledge, belief, and understanding, such proceedings were in full compliance with all applicable state and federal laws, regulations, and other requirements.

Jason M. Maranche 3/1/21

Jason M. Maranche Date
Air Quality Engineer III
Allegheny County Health Department
Air Quality Program

8.5 Summary of Public Comments and Responses

Below is a summary of public comments received during the public comment period, along with ACHD's responses to comments. The public comment period began on Jan. 29, 2021 and ended on Mar. 1, 2021, with a virtual public hearing held on Mar. 1, 2021. Notice of the opportunity for public comment appeared in the legal section of the *Pittsburgh Post-Gazette* on Jan. 28, 2021.

1. **Comment:** ACHD has avoided actions that would require emissions reductions of particulates from the U. S. Steel facilities. ACHD has a number of regulatory tools available to improve air quality and protect public health, but ACHD has not fully exercised its authority to address particulates with recent regulations, state implementation plans, and air permits. Specific actions that have lacked meaningful emissions reductions include the settlement agreement (2019), proposed coke oven regulations (2020), the $PM_{2.5}$ SIP (2019), and installation permits. Additionally, the recent ACHD declaration of attainment for $PM_{2.5}$ (based on 2018-2020 design values) is a false narrative because it includes monitored data during the COVID-19 pandemic, which is not a permanent and enforceable control that would be required for redesignation under federal law.

   Response: Each regulatory action taken by ACHD has a different scope and can include varying levels of specific reductions that may be required for that action. With respect to the PM_{10} maintenance plan included in this document, no reductions were required since the Liberty-Clairton area is showing monitored results that are well below the NAAQS. Additionally, temporary reductions in county-wide particulate emissions due to the COVID-19 pandemic are not being used as a control for any current or future regulatory action. While the monitored values measured during 2020 are included in the 2018-2020 design values, attainment of $PM_{2.5}$ and continued attainment of PM_{10} were not driven by temporary reductions that occurred during the pandemic.

2. **Comment:** ACHD should support efforts to make the NAAQS for particulates more stringent. It is clear that the current national ambient air quality standards for particulate matter are not protective of public health. With respect to fine particulates ($PM_{2.5}$), the standards were last revised in January 2013, and the 24-hour standard of 35 $\mu g/m^3$ can allow for hours that are much greater than standard while still showing a 24-hour average that is below the standard. With respect to coarse particulates (PM_{10}), the standards were first adopted in 1997 and have not been adequately updated to account for health research that clearly indicates community harms.

   Response: ACHD supports the periodic review of the federal particulate matter NAAQS, and attainment plans are adopted as quickly as possible in order to comply with any revisions to the NAAQS. The purpose of this PM_{10} maintenance plan is to provide for maintenance of the Liberty-Clairton area through 2023 according to requirements of the current federal PM_{10} NAAQS. (See more in the response to the following comment.)

3. **Comment:** ACHD should pursue more health-protective requirements for PM_{10} emissions in Allegheny County than are included in the proposed approach to the PM_{10} maintenance plan. There is strong evidence from recent public health research that short-term and long-term PM_{10} levels like those found in Allegheny County are extremely likely resulting in health damage to the community. Our region suffers from some of the worst air pollution in the United States. Despite being below the EPA standard of 150 µg/m³, performance at the Liberty, Glassport, and Lincoln monitors remain above the World Health Organization (WHO) threshold of 50 µg/m³ for 24-hour exposure in recent years. ACHD should consider setting a 24-hour standard that is equal to the WHO limit of 50 µg/m³, or even to a lower level of 25 µg/m³, to protect public health in Allegheny County. These updates should accompany updates to effective regulations, operational procedural requirements, inspections, and enforcement.

   Response: The purpose of this PM_{10} maintenance plan is to provide for maintenance of the area according to requirements of the current federal PM_{10} NAAQS. Changing any standard is beyond the scope of this plan.

Commenters:

Individuals or organizations that submitted written comments during the public comment period are listed below. There was no verbal testimony given at the public hearing. Copies of the written comments and/or the transcript of proceedings at the public hearing are available upon request.

- Christine Graziano, Resident of Allegheny County.
- Clean Air Council, submitted by Joseph Otis Minott, Esq., Executive Director and Chief Counsel, and Christopher D. Ahlers, Esq., Staff Attorney.
- Matthew Mehalik, Ph.D., Executive Director, Breathe Project.

8.6 Certification of Adoption

CERTIFICATION of ADOPTION

To the best of my knowledge, information, and belief, I the undersigned hereby certify that the revision to the County's Portion of the Pennsylvania State Implementation Plan (SIP) for a Limited Second Maintenance Plan (LMP) for the Liberty-Clairton maintenance area for the National Ambient Air Quality Standards (NAAQS) for particulate matter 10 microns or less (PM_{10}) was adopted by the Allegheny County Board of Health on May 5, 2021, was duly and properly enacted as prescribed by the Local Health Administration Law and the Allegheny County Home Rule Charter, and as such, is fully and legally enforceable by the Allegheny County Health Department and the County of Allegheny as provided for by the within authority.

Jeffrey R. Bailey, Esq.
Assistant Solicitor
Allegheny County Health Department

References

ACHD, 1993. Revision to Allegheny County's Portion of the Pennsylvania State Implementation Plan for the Attainment and Maintenance of the National Ambient Air Quality Standards. Appendix 31. Liberty Borough/Clairton PM10 Attainment Plan. Allegheny County Health Department, Pittsburgh, PA. December 17.

ACHD, 1995. Revision to Allegheny County's Portion of the Pennsylvania State Implementation Plan for the Attainment and Maintenance of the National Ambient Air Quality Standards. Appendix 34. Liberty Borough/Clairton PM10 Contingency Measures. Allegheny County Health Department, Pittsburgh, PA. July 11.

ACHD, 1997. Revision to Allegheny County's Portion of the Pennsylvania State Implementation Plan for the Attainment and Maintenance of the National Ambient Air Quality Standards. Appendix 36. PM10 Regulation Changes. Allegheny County Health Department, Pittsburgh, PA. Sept. 11.

ACHD, 2002. Revision to the State Implementation Plan, Redesignation Request and Maintenance Plan for Allegheny County, Pennsylvania, Particulate Matter 10 Microns (PM10), Liberty Borough/Clairton Nonattainment Area. Allegheny County Health Department, Pittsburgh, PA. October 4.

ACHD, 2020. County of Allegheny, Pennsylvania, Ordinance No. 16782, and Allegheny County Health Department Rules and Regulations, Article XXI Air Pollution Control. Amended through July 16, 2020, effective July 26, 2020. (https://www.alleghenycounty.us/uploadedFiles/Allegheny_Home/Health_Department/Article-21-Air-Pollution-Control-rev3319(1).pdf)

SPC, 2019. Cycle 11 Forecast of Population, Households, and Employment. Southwestern Pennsylvania Commission, Pittsburgh, PA. June 24. (https://www.spcregion.org/wp-content/uploads/2020/03/Cycle-11-by-munic-2015-2045.pdf)

SPC, 2020. Air Quality Conformity Determination, Pittsburgh Transportation Management Area for the 8-Hour Ozone Air Quality Standards, $PM_{2.5}$ Air Quality Standards, CO and PM_{10} Air Quality Standards. Companion Document to SmartMoves for a Changing Region and 2021-2024 Transportation Improvement Program. Southwestern Pennsylvania Commission, Pittsburgh, PA. Final Report. July. (https://www.spcregion.org/wp-content/uploads/2020/05/2021_2024_TIP_AQReport.pdf)

U.S. EPA, 1987. PM_{10} SIP Development Guideline. U.S. Environmental Protection Agency, Research Triangle Park, NC. (EPA-450/2-86-001.) June. https://nepis.epa.gov/Exe/ZyNET.exe/P1006IKV.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1986+Thru+1990&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C86thru90%5CTxt%5C00000019%5CP1006IKV.txt&User=ANONYM

OUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

U.S. EPA, 1992. Memorandum from John Calcagni, Director, Office of Air Quality Planning and Standards Air Quality Management Division, to Regional Air Directors; Subject: "Procedures for Processing Requests to Redesignate Areas to Attainment." September 4. (https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19920904_calcagni_process_redesignation_guidance.pdf)

U.S. EPA, 2001. Memorandum from Lydia Wegman, Director, Office of Air Quality Planning and Standards Air Quality Strategies and Standards Division, to Regional Air Directors; Subject: "Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas." August 9. (https://www.epa.gov/sites/production/files/2016-06/documents/2001lmp-pm10.pdf)

U.S. EPA, 2017. Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations. U.S. Environmental Protection Agency, Research Triangle Park, NC. (EPA-454/B-17-003.) July. (https://www.epa.gov/sites/production/files/2017-07/documents/ei_guidance_may_2017_final_rev.pdf)

U.S. EPA, 2020. 2017 National Emission Inventory (NEI) Data. U.S. Environmental Protection Agency. Last updated October 21. (https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data#tab-3)

Appendices

Appendix A. Emissions Inventory

This appendix provides detailed tables of primary PM_{10} and precursor emissions for the Liberty-Clairton area by source/process/category for the point, area, and mobile sources, as summarized in the Attainment Inventory section (Section 3).

Note: In the following tables, total primary PM_{10} is labeled as PM_{10}-PRI, filterable PM_{10} is labeled as PM_{10}-FIL, and condensable PM_{10} is labeled as PM-CON.

Table A-1. Point Source Emissions Inventory (tons/year), Liberty-Clairton, 2017

Facility	Unit Description	Unit ID	PM_{10}-PRI	PM_{10}-FIL	PM-CON	SO_2	NO_X	VOC	NH_3
AKJ	MIXER UNIT NO. 1 TANK	126782013	0.00	0.00	0.00	0.00	0.00	0.03	0.00
AKJ	MIXING UNIT #2	126782113	0.00	0.00	0.00	0.00	0.00	0.01	0.00
KOPPERS	CARBON BLACK OIL TANKS	98966613	0.00	0.00	0.00	0.00	0.00	0.01	0.00
KOPPERS	DEBENZOL COAL TAR TANKS	98967013	0.00	0.00	0.00	0.00	0.00	0.19	0.00
KOPPERS	LIQUID LOADING	98965913	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KOPPERS	TAR REFINING FUGITIVES	98965213	0.01	0.01	0.00	0.00	0.00	0.01	0.00
KOPPERS	THERMAL OXIDIZER	28139513	0.00	0.00	0.00	0.00	0.80	0.04	0.03
KOPPERS	PAVED ROADS	98965613	0.34	0.34	0.00	0.00	0.00	0.00	0.00
KOPPERS	UNPAVED ROADS	98965713	0.70	0.70	0.00	0.00	0.00	0.00	0.00
KOPPERS	WASTEWATER STOR. TANKS	98966913	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TECH MET	ABRASIVE BLASTING P015	109541113	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TECH MET	CUMMINS EMERGENCY GEN	122792113	0.00	0.00	0.00	0.00	0.17	0.01	0.00
TECH MET	EMERGENCY GENERATOR B018	109541413	0.01	0.01	0.00	0.00	0.07	0.00	0.00
TECH MET	ETCH AND DE-SMUT P010	109541713	0.00	0.00	0.00	0.00	0.04	0.00	0.00
TECH MET	FE CELL PROCESSES P014	109541013	0.00	0.00	0.00	0.00	20.56	0.00	0.00
TECH MET	HOIST AUTO MACRO ROUGH	109541513	0.00	0.00	0.00	0.00	0.22	0.30	0.00
TECH MET	MLE SYSTEM P009	109541613	0.00	0.00	0.00	0.00	0.28	0.38	0.00
TECH MET	PROCESS HEATER (1-4) B017	109541313	0.00	0.00	0.00	0.00	0.26	0.01	0.01
TECH MET	TITANIUM CELL PROCESSES	109541913	0.00	0.00	0.00	0.00	4.15	0.00	0.00
USS CLAIRTON	#1 PULVERIZERS	99057713	0.02	0.02	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	#2 PULVERIZERS	99057813	0.00	0.00	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	AERATION BASINS - WWTP	99060113	1.31	1.31	0.00	0.00	0.00	1.65	7.40
USS CLAIRTON	BATTERY 1, DOOR LEAKS	99049513	2.15	1.04	1.11	0.00	0.00	2.70	0.18
USS CLAIRTON	BATTERY 1, SOAKING	99049713	0.47	0.47	0.00	8.23	0.25	0.30	2.32
USS CLAIRTON	BATTERY 1, TOPSIDE LEAKS	99049613	0.06	0.03	0.03	0.00	0.00	0.07	0.00
USS CLAIRTON	BATTERY 1 CHARGING	99049413	0.06	0.03	0.03	0.00	0.00	0.07	0.01
USS CLAIRTON	BATTERY 1, UNDERFIRING COG	5310113	13.54	5.10	8.43	36.78	229.45	0.93	0.01
USS CLAIRTON	BATTERY 1, UNDERFIRING NG	5310013	0.05	0.01	0.03	0.00	0.85	0.03	0.02
USS CLAIRTON	BATTERY 13 TOPSIDE LEAKS	99051113	0.05	0.02	0.02	0.00	0.00	0.06	0.00

Facility	Unit Description	Unit ID	PM_{10}-PRI	PM_{10}-FIL	PM-CON	SO_2	NO_X	VOC	NH_3
USS CLAIRTON	BATTERY 13, SOAKING	99051213	0.06	0.06	0.00	0.39	0.21	0.25	1.90
USS CLAIRTON	BATTERY 13, CHARGING	99050913	0.05	0.02	0.03	0.00	0.00	0.07	0.00
USS CLAIRTON	BATTERY 13, DOOR LEAKS	99051013	1.56	0.76	0.80	0.00	0.00	1.97	0.13
USS CLAIRTON	BATTERY13, UNDERFIRING COG	99047913	6.69	1.62	5.08	24.94	48.37	0.28	0.05
USS CLAIRTON	BATTERY13, UNDERFIRING NG	99048013	0.03	0.01	0.02	0.00	0.49	0.02	0.01
USS CLAIRTON	BATTERY 14 TOPSIDE LEAKS	99051613	0.05	0.03	0.03	0.00	0.00	0.07	0.00
USS CLAIRTON	BATTERY 14, SOAKING	99051713	0.06	0.06	0.00	0.39	0.21	0.25	1.90
USS CLAIRTON	BATTERY 14, CHARGING	99051413	0.06	0.03	0.03	0.00	0.00	0.08	0.01
USS CLAIRTON	BATTERY 14, DOOR LEAKS	99051513	1.62	0.78	0.84	0.00	0.00	2.04	0.14
USS CLAIRTON	BATTERY 14, UNDERFIRING COG	99048113	7.20	1.74	5.46	26.77	75.56	0.31	0.24
USS CLAIRTON	BATTERY 14, UNDERFIRING NG	99048213	0.03	0.01	0.02	0.00	0.60	0.02	0.01
USS CLAIRTON	BATTERY 15 TOPSIDE LEAKS	99052113	0.06	0.03	0.03	0.00	0.00	0.07	0.01
USS CLAIRTON	BATTERY 15, SOAKING	99052213	0.06	0.06	0.00	0.39	0.21	0.25	1.90
USS CLAIRTON	BATTERY 15, CHARGING	99051913	0.04	0.02	0.02	0.00	0.00	0.06	0.00
USS CLAIRTON	BATTERY 15, DOOR LEAKS	99052013	1.71	0.83	0.88	0.00	0.00	2.15	0.15
USS CLAIRTON	BATTERY 15, UNDERFIRING COG	99048313	7.83	1.52	6.32	37.31	99.45	0.17	0.18
USS CLAIRTON	BATTERY 15, UNDERFIRING NG	99048413	0.04	0.01	0.03	0.00	0.73	0.03	0.02
USS CLAIRTON	BATTERY 19 TOPSIDE LEAKS	99052613	0.15	0.07	0.08	0.00	0.00	0.19	0.01
USS CLAIRTON	BATTERY #19, SOAKING	99052713	1.02	1.02	0.00	1.94	0.32	0.30	2.30
USS CLAIRTON	BATTERY 19, CHARGING	99052413	0.05	0.02	0.02	0.00	0.00	0.06	0.00
USS CLAIRTON	BATTERY 19, DOOR LEAKS	99052513	2.24	1.09	1.16	0.00	0.00	2.83	0.19
USS CLAIRTON	BATTERY19, UNDERFIRING COG	99048513	10.68	3.78	6.90	47.76	51.07	2.16	0.09
USS CLAIRTON	BATTERY19, UNDERFIRING NG	99048613	0.05	0.01	0.04	0.00	0.97	0.04	0.02
USS CLAIRTON	BATTERY 2, SOAKING	99050213	0.47	0.47	0.00	8.23	0.25	0.30	2.32
USS CLAIRTON	BATTERY 2, TOPSIDE LEAKS	99050113	0.06	0.03	0.03	0.00	0.00	0.08	0.01
USS CLAIRTON	BATTERY 2 CHARGING	99049913	0.07	0.03	0.04	0.00	0.00	0.09	0.01
USS CLAIRTON	BATTERY 2, DOOR LEAKS	99050013	2.09	1.01	1.08	0.00	0.00	2.64	0.18
USS CLAIRTON	BATTERY 2, UNDERFIRING COG	5305113	12.81	5.97	6.84	37.17	220.48	0.69	0.01
USS CLAIRTON	BATTERY 2, UNDERFIRING NG	5304513	0.05	0.01	0.04	0.00	0.87	0.03	0.02
USS CLAIRTON	BATTERY 20, SOAKING	99053213	1.02	1.02	0.00	1.94	0.32	0.30	2.30
USS CLAIRTON	BATTERY 20, CHARGING	99052913	0.04	0.02	0.02	0.00	0.00	0.06	0.00
USS CLAIRTON	BATTERY 20, DOOR LEAKS	99053013	2.29	1.11	1.18	0.00	0.00	2.88	0.20
USS CLAIRTON	BATTERY 20, TOPSIDE LEAKS	99053113	0.13	0.06	0.07	0.00	0.00	0.17	0.01
USS CLAIRTON	BATTERY20, UNDERFIRING COG	99048713	11.95	3.41	8.54	53.21	53.39	24.67	0.29
USS CLAIRTON	BATTERY20, UNDERFIRING NG	99048813	0.06	0.01	0.04	0.00	1.02	0.04	0.02
USS CLAIRTON	BATTERY 3 TOPSIDE LEAKS	99050613	0.08	0.04	0.04	0.00	0.00	0.11	0.01
USS CLAIRTON	BATTERY 3, SOAKING	99050713	0.47	0.47	0.00	8.23	0.25	0.30	2.32
USS CLAIRTON	BATTERY 3, CHARGING	99050413	0.06	0.03	0.03	0.00	0.00	0.08	0.01
USS CLAIRTON	BATTERY 3, DOOR LEAKS	99050513	2.19	1.06	1.13	0.00	0.00	2.77	0.19
USS CLAIRTON	BATTERY 3, UNDERFIRING COG	5303113	33.30	22.42	10.88	39.87	187.86	0.29	0.02

Facility	Unit Description	Unit ID	PM_{10}-PRI	PM_{10}-FIL	PM-CON	SO_2	NO_X	VOC	NH_3
USS CLAIRTON	BATTERY 3, UNDERFIRING NG	5306513	0.05	0.01	0.04	0.00	0.88	0.03	0.02
USS CLAIRTON	BATTERY B, SOAKING	99053713	2.92	2.92	0.00	4.02	0.92	0.45	3.51
USS CLAIRTON	BATTERY B CHARGING	99053413	0.17	0.08	0.09	0.00	0.00	0.23	0.02
USS CLAIRTON	BATTERY B, DOOR LEAKS	99053513	2.28	1.11	1.18	0.00	0.00	2.88	0.20
USS CLAIRTON	BATTERY B, TOPSIDE LEAKS	99053613	0.23	0.22	0.02	0.00	0.00	0.04	0.00
USS CLAIRTON	BATTERY B, UNDERFIRING COG	99048913	17.41	10.00	7.41	117.51	366.00	1.97	0.04
USS CLAIRTON	BATTERY B, UNDERFIRING NG	99049013	0.12	0.03	0.09	0.01	2.23	0.09	0.05
USS CLAIRTON	BATTERY C BALL MILL	106549613	0.00	0.00	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BATTERY C / CHARGING	106548813	0.17	0.08	0.09	0.00	0.00	0.23	0.02
USS CLAIRTON	BATTERY C / DOOR LEAKS	106548913	1.17	0.57	0.60	0.00	0.00	1.48	0.10
USS CLAIRTON	BATTERY C / SOAKING	106549113	1.64	1.64	0.00	2.32	0.52	0.26	2.02
USS CLAIRTON	BATTERY C / TOPSIDE LEAKS	106549013	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BATTERY C PEC / HOT CAR	106549313	5.18	5.15	0.03	16.33	6.44	0.09	0.01
USS CLAIRTON	BATTERY C PEC BAGHOUSE	106549213	0.76	0.57	0.19	21.28	4.41	0.89	0.12
USS CLAIRTON	BATTERY C PEC FUGITIVES	106549513	36.63	36.60	0.03	2.23	0.38	0.16	0.02
USS CLAIRTON	BATTERY C PRE-PUSH	106549413	0.59	0.58	0.02	0.02	0.01	0.00	0.00
USS CLAIRTON	BATTERY C UNDERFIRING	5304013	32.60	21.05	11.54	129.97	381.99	6.18	0.11
USS CLAIRTON	BATTERY FUGITIVES MISC	95638713	3.01	3.01	0.00	0.00	0.00	3.79	16.97
USS CLAIRTON	BLASTING - BLACK BEAUTY	99059113	0.24	0.24	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BOILER #1, COG, STACK S31	5307113	29.40	15.59	13.80	109.75	497.58	1.63	0.36
USS CLAIRTON	BOILER #1, NG, STACK S31	5306013	1.55	0.39	1.16	0.12	64.82	1.14	0.65
USS CLAIRTON	BOILER #2, COG, STACK S32	5306613	12.36	6.09	6.27	121.35	163.59	0.15	0.21
USS CLAIRTON	BOILER #2, NG, STACK S32	5306713	1.04	0.26	0.78	0.08	25.33	0.67	0.44
USS CLAIRTON	BOILER R1, COG, STACK S36	5306813	0.05	0.03	0.02	0.27	0.47	0.00	0.00
USS CLAIRTON	BOILER R2, COG, STACK S36	5306913	1.05	0.71	0.34	6.63	13.85	0.01	0.02
USS CLAIRTON	BOILER T1, COG, STACK S38	99049313	1.13	0.71	0.42	5.78	12.04	0.00	0.02
USS CLAIRTON	BOILER T2, COG, STACK S39	5308513	1.16	0.72	0.44	5.70	10.03	0.06	0.02
USS CLAIRTON	BOOM / CONVEYOR TO BARGE	99061113	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BOOM / FRONT END TO TRUCK	99060813	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BOOM / HOPPER TO CONVEYOR	99061013	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BOOM / TRUCK TO HOPPER	99060913	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BP PITCH TRAPS	95638813	1.30	1.30	0.00	0.00	0.00	1.17	9.85
USS CLAIRTON	CLAM SHELL UNLOADER	99057513	0.03	0.03	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COAL STORAGE-BINS/BUNKERS	99057913	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COAL TRANSFER	99057613	0.98	0.98	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COKE PILE, LOAD/UNLOAD	99058213	0.07	0.07	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COKE STORAGE PILE EROSION	99059013	1.03	1.03	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COKE TRANSFER 1-3, 7-9, B	99058013	1.73	1.73	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COKE TRANSFER 13-15/19-20	99058113	1.32	1.32	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COKE TRANSFER C	106549813	1.07	1.07	0.00	0.00	0.00	0.00	0.00

Facility	Unit Description	Unit ID	PM_{10}-PRI	PM_{10}-FIL	PM-CON	SO_2	NO_X	VOC	NH_3
USS CLAIRTON	COAL UNLOADER #1	99057213	0.67	0.67	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COAL UNLOADER #2	99057313	0.31	0.31	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	COOLING TOWER	99059913	259.84	121.22	138.63	0.00	0.00	0.00	0.00
USS CLAIRTON	DUSTREAT / CITRIKLEEN	99060713	0.00	0.00	0.00	0.00	0.00	0.61	0.00
USS CLAIRTON	EQUIPMENT LEAKS	99057013	0.10	0.10	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	PAINTS AND THINNERS	99059713	0.00	0.00	0.00	0.00	0.00	2.00	0.00
USS CLAIRTON	SAFETY-KLEEN WASHER	99059613	0.00	0.00	0.00	0.00	0.00	1.13	0.00
USS CLAIRTON	FINAL COOLER SUMP	99056813	0.02	0.02	0.00	0.00	0.00	1.47	0.00
USS CLAIRTON	FL CIRC./SURGE TANKS	99056613	0.54	0.54	0.00	0.00	0.00	1.97	17.94
USS CLAIRTON	FL PUMPHOUSE SUMPS	99056913	0.54	0.54	0.00	0.00	0.00	1.97	17.94
USS CLAIRTON	FLARING	99060013	0.00	0.00	0.00	0.11	0.01	0.00	0.00
USS CLAIRTON	L.O. BARGE LOADING	99060513	0.00	0.00	0.00	0.00	0.00	0.03	0.00
USS CLAIRTON	L.O. COLLECTING TANKS	99060413	0.00	0.00	0.00	0.00	0.00	0.41	0.00
USS CLAIRTON	L.O. DECANTERS	99060613	0.00	0.00	0.00	0.00	0.00	0.05	0.00
USS CLAIRTON	METHANOL / AIR LINES	99060213	0.00	0.00	0.00	0.00	0.00	3.38	0.00
USS CLAIRTON	METHANOL / WINT. LID SLURRY	99060313	0.00	0.00	0.00	0.00	0.00	29.38	0.00
USS CLAIRTON	NH3 TANKER LOADING FLARE	99049213	0.02	0.02	0.00	0.08	13.92	0.01	0.09
USS CLAIRTON	NO. 4 SCR. STATION / LOADOUT	106550013	0.05	0.05	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	NO. 4 SCR. STATION / SCREENING	106549913	0.76	0.33	0.43	0.00	0.00	0.00	0.00
USS CLAIRTON	BATT. 13-15 / BALL MILL	99054913	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BATT. 13-15 / PEC BAGHOUSE	99054513	1.15	0.43	0.72	4.68	6.16	0.54	0.07
USS CLAIRTON	BATT. 13-15 / PEC FUGITIVES	99054713	55.76	55.65	0.11	0.47	0.60	0.06	0.01
USS CLAIRTON	BATT. 13-15 / PRE PUSH	99055013	2.50	2.50	0.01	0.37	0.10	0.07	0.00
USS CLAIRTON	BATT. 13-15 / HOT CAR	99054613	5.06	5.03	0.03	15.97	6.29	0.05	0.01
USS CLAIRTON	BATT. 13-15 / UNC. PUSHING	99054813	4.10	4.10	0.00	0.04	0.05	0.00	0.00
USS CLAIRTON	BATT. 19-20 / BALL MILL	99055513	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BATT. 19-20 / PEC BAGHOUSE	99055113	1.35	0.38	0.97	4.88	6.42	0.43	0.08
USS CLAIRTON	BATT. 19-20 / PEC FUGITIVES	99055313	58.58	58.43	0.15	0.49	0.63	0.05	0.01
USS CLAIRTON	BATT. 19-20 / PRE PUSH	99055613	2.60	2.59	0.01	0.38	0.11	0.07	0.00
USS CLAIRTON	BATT. 19-20 / HOT CAR	99055213	5.29	5.25	0.04	16.67	6.57	0.04	0.01
USS CLAIRTON	BATT. 19-20 / UNC. PUSHING	99055413	1.13	1.13	0.00	0.01	0.01	0.00	0.00
USS CLAIRTON	BATTERIES 1-3 / BALL MILL	99054313	0.01	0.01	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BATTERIES 1-3 / PEC BAGHOUSE	99053913	2.02	0.84	1.19	5.61	7.38	1.31	0.09
USS CLAIRTON	BATTERIES 1-3 / PEC FUGITIVES	99054113	67.41	67.23	0.18	0.56	0.72	0.15	0.01
USS CLAIRTON	BATTERIES 1-3 / PRE PUSH	99054413	2.99	2.98	0.01	0.44	0.12	0.08	0.00
USS CLAIRTON	BATTERIES 1-3 / HOT CAR	99054013	6.09	6.05	0.04	19.22	7.57	0.13	0.01
USS CLAIRTON	BATTERIES 1-3 / UNC. PUSHING	99054213	2.59	2.59	0.00	0.02	0.03	0.01	0.00
USS CLAIRTON	BATTERY B / BALL MILL	99055913	0.00	0.00	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	BATTERY B / PEC BAGHOUSE	99055713	1.94	0.61	1.33	50.28	9.75	8.00	0.11
USS CLAIRTON	BATTERY B / PEC FUGITIVES	99055813	9.32	9.22	0.10	2.65	0.59	0.42	0.01

Facility	Unit Description	Unit ID	PM_{10}-PRI	PM_{10}-FIL	PM-CON	SO_2	NO_X	VOC	NH_3
USS CLAIRTON	BATTERY B / PRE PUSH	99056013	0.04	0.03	0.01	0.34	0.15	0.09	0.00
USS CLAIRTON	PEDESTAL CRANE UNLOADER	99057413	0.03	0.03	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	PLANT ROADS	99059213	0.82	0.82	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	PLANT ROADS	99059313	1.42	1.42	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	QUENCH TOWER #1	99056113	21.07	12.48	8.60	1.80	0.87	5.41	0.09
USS CLAIRTON	QUENCH TOWER #5	99056213	1.85	1.15	0.70	0.34	0.15	0.71	0.01
USS CLAIRTON	QUENCH TOWER #7	99056313	4.30	2.50	1.81	0.18	0.11	0.87	0.01
USS CLAIRTON	QUENCH TOWER #B	99056413	15.68	7.84	7.84	5.49	1.96	5.88	0.11
USS CLAIRTON	QUENCH TOWER 5A	109543013	9.69	7.72	1.97	4.37	0.50	3.69	0.06
USS CLAIRTON	QUENCH TOWER 7A	109543113	14.68	10.75	3.93	3.24	0.53	2.64	0.07
USS CLAIRTON	QUENCH TOWER C	106549713	19.65	11.26	8.39	33.55	2.21	7.06	0.47
USS CLAIRTON	SCOT STACK	99059813	7.01	0.72	6.30	80.64	1.57	22.49	0.00
USS CLAIRTON	SCR. STN 1-3/7-9 LOADOUT	99058413	0.11	0.11	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	SCREEN STATION 1-3, 7-9	99058313	0.12	0.12	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	SCREEN STN 13-15, 19-20	99058513	0.20	0.20	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	SCRN 13-15/19-20 LOADOUT	99058613	0.19	0.19	0.00	0.00	0.00	0.00	0.00
USS CLAIRTON	TAR COLLECTING TANKS	99057113	0.01	0.01	0.00	0.00	0.00	0.01	0.00
USS CLAIRTON	TAR STORAGE/SEP TANKS	99056713	0.01	0.01	0.00	0.00	0.00	0.10	0.00
USS CLAIRTON	TAR/FL DECANTERS	99056513	0.54	0.54	0.00	0.00	0.00	1.97	17.94
USS CLAIRTON	TDS BOXES	95638913	0.03	0.03	0.00	0.00	0.00	0.14	1.82

Table A-2. Area Source Emissions Inventory (tons/year), Liberty-Clairton, 2017

Area Source Category	PM_{10}-PRI	PM_{10}-FIL	PM-CON	SO_2	NO_X	VOC	NH_3
Agriculture - Crops & Livestock Dust	2.45	2.45	0.00	0.00	0.00	0.00	0.00
Agriculture - Fertilizer Application	0.00	0.00	0.00	0.00	0.00	0.00	1.36
Agriculture - Livestock Waste	0.00	0.00	0.00	0.00	0.00	0.11	1.40
Biogenics - Vegetation and Soil	0.00	0.00	0.00	0.00	3.25	85.35	0.00
Bulk Gasoline Terminals	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial Cooking	8.93	0.66	8.27	0.00	0.00	1.25	0.00
Dust - Construction Dust	110.52	110.52	0.00	0.00	0.00	0.00	0.00
Dust - Paved Road Dust	14.54	14.54	0.00	0.00	0.00	0.00	0.00
Dust - Unpaved Road Dust	0.16	0.16	0.00	0.00	0.00	0.00	0.00
Fires - Prescribed/Natural	0.01	0.01	0.00	0.00	0.00	0.01	0.00
Fuel Comb - Comm/Institutional - Biomass	1.99	1.93	0.07	0.10	0.85	0.07	0.02
Fuel Comb - Comm/Institutional - Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Comb - Comm/Institutional - Natural Gas	0.04	0.02	0.03	0.05	8.19	0.45	0.04
Fuel Comb - Comm/Institutional - Oil	0.26	0.18	0.08	0.21	2.83	0.14	0.05
Fuel Comb - Comm/Institutional - Other	0.00	0.00	0.00	0.01	1.19	0.04	0.00
Fuel Comb - Industrial Boilers, ICEs - Biomass	11.13	10.76	0.37	0.54	4.73	0.37	0.15
Fuel Comb - Industrial Boilers, ICEs - Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Comb - Industrial Boilers, ICEs - Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Comb - Industrial Boilers, ICEs - Oil	0.43	0.40	0.03	0.37	5.75	0.38	0.02
Fuel Comb - Industrial Boilers, ICEs - Other	0.00	0.00	0.00	0.00	0.15	0.01	0.00
Fuel Comb - Residential - Natural Gas	0.15	0.06	0.09	0.17	26.68	1.56	5.68
Fuel Comb - Residential - Oil	0.09	0.04	0.05	0.27	0.70	0.03	0.04
Fuel Comb - Residential - Other	0.00	0.00	0.00	0.00	0.50	0.02	0.00
Fuel Comb - Residential - Wood	11.94	11.44	0.50	0.24	1.83	12.19	0.77
Gas Stations	0.00	0.00	0.00	0.00	0.00	5.95	0.00
Industrial Processes - Mining	1.67	1.67	0.00	0.00	0.00	0.00	0.00
Industrial Processes - Oil & Gas Production	0.25	0.04	0.08	1.35	9.83	22.11	0.00
Industrial Processes - Storage and Transfer	0.00	0.00	0.00	0.00	0.00	6.91	0.00
Miscellaneous Non-Industrial NEC	1.18	1.18	0.00	0.01	0.14	3.83	0.00
Mobile - Commercial Marine Vessels	0.18	0.00	0.00	0.03	5.99	0.34	0.00
Mobile - Locomotives	0.63	0.00	0.00	0.01	21.51	1.00	0.01
Solvent - Consumer & Commercial Solvent Use	0.00	0.00	0.00	0.00	0.00	69.68	0.00
Solvent - Degreasing	0.00	0.00	0.00	0.00	0.00	11.10	0.00
Solvent - Dry Cleaning	0.00	0.00	0.00	0.00	0.00	0.09	0.00
Solvent - Graphic Arts	0.00	0.00	0.00	0.00	0.00	16.71	0.00
Solvent - Industrial Surface Coating & Solvent Use	0.00	0.00	0.00	0.00	0.00	11.98	0.00
Solvent - Non-Industrial Surface Coating	0.00	0.00	0.00	0.00	0.00	17.24	0.00
Waste Disposal	8.52	8.52	0.00	0.65	1.66	6.31	0.31

Table A-3. Nonroad Mobile Source Emissions Inventory (tons/year), Liberty-Clairton, 2017

Nonroad Mobile Source Category	PM_{10}-PRI	PM_{10}-FIL	PM-CON	SO_2	NO_X	VOC	NH_3
Mobile - Non-Road Equipment - Diesel	2.46	2.46	0.00	0.05	29.96	2.67	0.05
Mobile - Non-Road Equipment - Gasoline	1.80	1.80	0.00	0.04	5.95	30.11	0.03
Mobile - Non-Road Equipment - Other	0.08	0.08	0.00	0.00	1.92	0.40	0.00

Table A-4. Onroad Mobile Source Emissions Inventory (tons/year), Liberty-Clairton, 2017

Onroad Mobile Source Category	PM_{10}-PRI	PM_{10}-FIL	PM-CON	SO_2	NO_X	VOC	NH_3
Gas Stations	0.00	0.00	0.00	0.00	0.00	0.95	0.00
Mobile - On-Road Diesel Heavy Duty Vehicles	2.78	2.78	0.00	0.10	37.03	2.73	0.20
Mobile - On-Road Diesel Light Duty Vehicles	0.15	0.15	0.00	0.01	2.13	0.76	0.02
Mobile - On-Road non-Diesel Heavy Duty Vehicles	0.24	0.24	0.00	0.02	3.04	1.57	0.06
Mobile - On-Road non-Diesel Light Duty Vehicles	7.31	7.31	0.00	0.70	51.91	51.41	3.32

Appendix B. Monitored Data

This appendix provides tables of yearly monitored data for the monitor sites described in the Maintenance Demonstration section (Section 4) for the timeframe of 2001-2020. All monitors were sited, operated, and maintained according to 40 CFR Part 58 requirements, and all monitored data have been validated, quality assured, and requested for certification. Notes: FEM 24-hour concentrations are based on the averages of hourly concentrations (midnight to midnight) for days with 18 or more valid hours. The Liberty primary FRM has operated on both 1-in-1 and 1-in-3 day sample frequencies over the 2001-2020 timeframe. The Liberty duplicate FRM (started in 2005) and the Clairton FRM have only operated on a 1-in-6 day sample frequency.

Table A-5. Yearly Monitored Average PM_{10} Concentrations (µg/m³), Liberty-Clairton Monitors, 2001-2020

Year	Liberty FRM (prim.)	Liberty FRM (dupl.)	Liberty FEM	Clairton FRM	Glassport FEM	Lincoln FEM
2001	31.0	--	32.7	21.7	28.7	40.2
2002	27.0	--	28.1	19.6	25.5	35.6
2003	26.6	--	27.7	21.6	24.2	37.4
2004	25.5	--	28.8	19.2	25.8	38.7
2005	28.1	27.5	28.6	20.7	26.5	39.7
2006	23.9	23.7	27.5	18.3	22.4	34.3
2007	27.7	25.9	28.1	21.3	26.3	35.5
2008	24.4	22.4	24.2	17.7	21.9	32.0
2009	21.3	21.5	19.6	16.3	18.0	25.5
2010	25.6	26.2	22.5	18.3	20.1	27.3
2011	23.6	21.1	19.1	16.8	17.9	25.1
2012	23.9	27.1	20.1	16.2	19.5	26.9
2013	18.6	19.0	15.8	14.7	15.8	21.8
2014	18.4	15.3	16.9	14.2	16.1	21.7
2015	22.0	23.4	19.3	16.2	17.0	23.3
2016	20.1	21.3	18.3	13.7	14.4	22.6
2017	19.5	20.4	17.7	13.7	15.3	23.8
2018	16.9	16.0	15.7	12.6	14.6	19.6
2019	17.2	16.1	16.2	11.3	15.7	20.5
2020	13.8	13.6	14.1	10.9	12.5	16.9

Table A-6. Yearly Monitored 24-Hour Maximum PM_{10} Concentrations (µg/m³), Liberty-Clairton Monitors, 2001-2020

Year	Liberty FRM (prim.)	Liberty FRM (dupl.)	Liberty FEM	Clairton FRM	Glassport FEM	Lincoln FEM
2001	126	--	132	56	106	134
2002	92	--	99	59	86	129
2003	147	--	135	67	119	152
2004	131	--	121	70	126	162
2005	110	102	121	65	127	157
2006	72	69	112	48	85	129
2007	79	60	90	50	112	125
2008	73	66	87	49	99	129
2009	120	121	118	39	100	90
2010	73	71	70	46	83	100
2011	93	58	70	37	83	115
2012	73	75	71	34	91	84
2013	59	47	49	28	60	76
2014	64	69	63	39	64	70
2015	64	63	78	41	91	85
2016	70	70	65	46	68	93
2017	106	107	87	29	68	108
2018	50	52	54	27	57	83
2019	72	68	74	26	105	75
2020	39	34	49	31	46	73

Table A-7. Yearly Monitored Exceedances of the 24-Hour PM_{10} NAAQS, Liberty-Clairton Monitors, 2001-2020

Year	Liberty FRM (prim.)	Liberty FRM (dupl.)	Liberty FEM	Clairton FRM	Glassport FEM	Lincoln FEM
2001	0	0	0	0	0	0
2002	0	0	0	0	0	0
2003	0	0	0	0	0	0
2004	0	0	0	0	0	1
2005	0	0	0	0	0	1
2006	0	0	0	0	0	0
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0

Table A-8. Estimated Exceedances per Year of the 24-Hour PM_{10} NAAQS, Liberty-Clairton Monitors, 2001-2020

Year	Liberty FRM (prim.)	Liberty FRM (dupl.)	Liberty FEM	Clairton FRM	Glassport FEM	Lincoln FEM
2001	--	--	--	--	--	--
2002	--	--	--	--	--	--
2003	--	--	--	--	--	--
2004	--	--	--	--	--	0.3
2005	--	--	--	--	--	0.7
2006	--	--	--	--	--	0.7
2007	--	--	--	--	--	0.3
2008	--	--	--	--	--	--
2009	--	--	--	--	--	--
2010	--	--	--	--	--	--
2011	--	--	--	--	--	--
2012	--	--	--	--	--	--
2013	--	--	--	--	--	--
2014	--	--	--	--	--	--
2015	--	--	--	--	--	--
2016	--	--	--	--	--	--
2017	--	--	--	--	--	--
2018	--	--	--	--	--	--
2019	--	--	--	--	--	--
2020	--	--	--	--	--	--

Table A-9. Yearly Monitored 2nd-Highest 24-Hour PM_{10} Concentrations (µg/m³), Liberty-Clairton Monitors, 2001-2020

Year	Liberty FRM (prim.)	Liberty FRM (dupl.)	Liberty FEM	Clairton FRM	Glassport FEM	Lincoln FEM
2001	119	--	122	43	105	133
2002	85	--	98	58	83	107
2003	108	--	117	46	106	145
2004	101	--	109	54	119	153
2005	108	64	113	37	108	142
2006	71	67	95	42	83	128
2007	72	58	88	47	102	119
2008	71	64	87	43	80	111
2009	82	77	76	36	73	88
2010	72	69	70	40	75	93
2011	72	55	70	37	74	94
2012	72	61	66	32	72	75
2013	47	45	48	25	57	65
2014	55	59	50	32	52	56
2015	59	51	61	34	56	79
2016	62	63	63	27	49	84
2017	61	63	58	28	68	93
2018	50	43	53	21	48	67
2019	71	62	68	22	86	57
2020	38	31	48	24	45	71

Table A-10. 3-Year Averages (Design Values) of Monitored 2nd-Highest 24-Hour PM_{10} Concentrations (µg/m³), Liberty-Clairton Sites, 2001-2020

Years	Liberty	Clairton	Glassport	Lincoln
2001-2003	112	49	98	128
2002-2004	108	53	103	135
2003-2005	113	46	111	147
2004-2006	106	44	103	141
2005-2007	99	42	98	130
2006-2008	90	44	88	119
2007-2009	86	42	85	106
2008-2010	80	40	76	97
2009-2011	75	38	74	92
2010-2012	72	36	74	87
2011-2013	64	31	68	78
2012-2014	60	30	60	65
2013-2015	56	30	55	67
2014-2016	61	31	52	73
2015-2017	62	30	58	85
2016-2018	60	25	55	81
2017-2019	62	24	67	72
2018-2020	57	22	60	65

With EPA approval, the following monitors in the Liberty-Clairton area were removed from the PM_{10} monitor network in 2020:

- The Liberty primary FRM, with an end date of Nov. 11, 2020
- The Liberty duplicate FRM, with an end date of Sept. 19, 2020
- The Lincoln FEM, with an end date of Dec. 31, 2020

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