2022 Annual Monitoring
Network Plan

Air Quality Technical Advisory Committee
August 18, 2022
Harrisburg, PA

Tom Wolf, Governor
Ramez Ziadeh, P.E. Acting Secretary
– Review of 2021 Air Quality Design Values
  • Ozone
  • Fine Particulate Matter (PM$_{2.5}$)
  • Sulfur Dioxide (SO$_2$)
  • Lead (Pb)

– Proposed 2022 Annual Monitoring Network Plan
  • 2021 Changes to Monitoring Network
  • 2022 Proposed Changes to Monitoring Network
Review of 2021 Air Quality Design Values
2021 8-Hour Ozone Design Values

Appearing in Red – 2021 8-hour ozone design value above 70 ppb (2015 Ozone Standard)
Appearing in Blue – 2021 8-hour ozone design value at or below 70 ppb (2015 Ozone Standard)
Asterisk (*) appearing behind the design value means the data is incomplete during 3-year period.
2021 Annual PM$_{2.5}$ Design Values

Appearing in Red – 2021 annual PM2.5 design value above 12.0 µg/m$^3$ (2012 PM2.5 Standard)

Appearing in Blue – 2021 annual PM2.5 design value at or below 12.0 µg/m$^3$ (2012 PM2.5 Standard)

Asterisk (*) appearing behind the design value means the data is incomplete during 3-year period.
2021 24-hour PM$_{2.5}$ Design Values

- Appearing in Red – 2021 24-hour PM2.5 design value above 35 µg/m$^3$ (2006 PM2.5 Standard)
- Appearing in Blue – 2021 24-hour PM2.5 design value at or below 35 µg/m$^3$ (2006 PM2.5 Standard)
- Asterisk (*) appearing behind the design value means the data is incomplete during 3-year period.

2021 1-hour SO₂ Design Values

Appearing in Red – 2021 1-hour SO2 design value above 75 ppb (2010 SO2 Standard)
Appearing in Blue – 2021 1-hour SO2 design value at or below 75 ppb (2010 SO2 Standard)
Asterisk (*) appearing behind the design value means the data is incomplete during 3-year period.
2021 3-Month Lead Design Values

Appearing in Red – 2021 3-month lead design value above 0.15 µg/m³ (2008 Lead Standard)
Appearing in Blue – 2021 3-month lead design value at or below 0.15 µg/m³ (2008 Lead Standard)
Asterisk (*) appearing behind the design value means the data is incomplete during 3-year period.
Proposed 2022 Annual Monitoring Network Plan
Title 40 Part 58 of the Code of Federal Regulations (Specifically Section 58.10) requires:

the State, or where applicable local, agency shall adopt and submit to the Regional Administrator an annual monitoring network plan which shall provide for the establishment and maintenance of an air quality surveillance system that consists of a network of SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations. The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part, where applicable. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to EPA.

These plans are due to the EPA Regional Administrator by July 1 of the calendar year.
Pursuant to Section 58.10(a) and (b), network plans must include the following for existing and proposed monitoring sites:

- A statement of purpose for each monitor
- Evidence that siting and operation of each monitor meets the requirements of 40 CFR Part 58, Appendices A, C, D, and E where applicable
- The Air Quality System (AQS) site identification number
- The location, including street address and geographical coordinates
- The sampling and analysis method(s) for each measured parameter
- The operating schedules for each monitor
- Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal
- The monitoring objective and spatial scale of representativeness for each monitor
- The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM$_{2.5}$ NAAQS, as described in 40 CFR § 58.30
- The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Combined Statistical Area (CSA), or other area represented by the monitor
• In 2021, DEP changed the following within its ambient air monitoring network:

  – **New Sites**: Established Fort McIntosh site in Beaver County (monitors ozone, PM$_{2.5}$, VOCs and meteorology)

  – **Lead**: Discontinued Laureldale North lead monitoring site

  – **PM$_{10}$ and SO$_2$**: Discontinued monitoring at Wilkes-Barre and established monitoring at Scranton
In 2022, DEP is proposing to change the following within its ambient air monitoring network:

- **Discontinue Sites:**
  - Hookstown in Beaver County (ozone and SO2)
  - Moshannon in Clearfield County (ozone)
  - Wilkes-Barre in Luzerne County (ozone)
DEP is proposing discontinuation of its Hookstown site in Beaver County. Hookstown is also in the Pittsburgh MSA.

Hookstown currently monitors for ozone and SO$_2$.

The reasons for discontinuation:

– We are meeting federal monitoring requirements without Hookstown.

– The close proximity of Hookstown to other regional monitors with the same monitoring purpose.

– Hookstown does not have the highest ozone or SO$_2$ readings in the MSA.
<table>
<thead>
<tr>
<th>CBSA</th>
<th>2020 Population Estimate</th>
<th>Maximum 2020 Design Value</th>
<th>No. of Monitors Required</th>
<th>DEP SLAMS Monitors</th>
<th>Other SLAMS Monitors</th>
<th>CASTNET Monitors</th>
<th>Total No. SLAMS Monitors</th>
<th>Add’l Monitors Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pittsburgh MSA</td>
<td>2,367,293</td>
<td>68</td>
<td>2</td>
<td>9</td>
<td>ACHD-3</td>
<td>0</td>
<td>12</td>
<td>0</td>
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</table>
Pittsburgh MSA Ozone Design Values (2011-20)

Year: 2011 to 2020

- Site Names: Beaver Falls, Brighton Twp, Charleroi, Florence, Greensburg, Harrison 2, Hookstown, Houston, Kittanning, Lawrenceville, South Fayette

Ozone Design Values (ppb):
- 2015 8-hour Ozone NAAQS (70 ppb)

Graph shows the trend of ozone design values across different sites from 2011 to 2020.
<table>
<thead>
<tr>
<th>CBSA</th>
<th>2020 Population Estimate</th>
<th>2017 NEI (tons/year)</th>
<th>Calculated PWEI</th>
<th>No. of Monitors Required</th>
<th>PA DEP SLAMS Monitors</th>
<th>Other SLAMS Monitors</th>
<th>Total No. of Monitors</th>
<th>Add'l Monitors Needed</th>
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<tbody>
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<td>4</td>
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Pittsburgh MSA – Current SO$_2$ Monitoring Network
• DEP is proposing discontinuation of its Moshannon site in Clearfield County. Moshannon is also in the DuBois μSA.

• Moshannon currently only monitors for ozone.

• The reasons for discontinuation:
  – We are meeting federal monitoring requirements without Moshannon.
  – There is ozone history between Clearfield and Indiana counties.
  – Moshannon does not have the highest ozone readings in the region, including Strongstown in Indiana County.
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<tr>
<th>CBSA</th>
<th>2020 Population Estimate</th>
<th>Maximum 2020 Design Value</th>
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<tbody>
<tr>
<td>DuBois µSA</td>
<td>80,394</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
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Moshannon Area Ozone Design Values (2011-20)

Site Name

[Graph showing ozone design values from 2011 to 2020 for sites KITTANNING, MOSHANNON, and STRONGSTOWN. The graph includes a horizontal line at 70 ppb for 2015 8-hour Ozone NAAQS.]

Year

Moshannon Area Ozone 4th Highs (2011-20)

Site Name: KITTANNING, MOSHANNON, STRONGSTOWN

2015 8-hour Ozone NAAQS (70 ppb)

Ozone 4th High Concentration (ppb)

Year:
- 2012
- 2014
- 2016
- 2018
- 2020
DEP is proposing discontinuation of its Wilkes-Barre site in Luzerne County. Wilkes-Barre is also in the Scranton/Wilkes-Barre/Hazleton MSA.

Wilkes-Barre currently only monitors for ozone after PM\(_{10}\) and SO\(_{2}\) was moved to Scranton last fall.

The reasons for discontinuation:

- We are meeting federal monitoring requirements without Wilkes-Barre.
- Wilkes-Barre is more upwind of the combined Wilkes-Barre/Scranton metropolitan area, therefore leading to point 3 below.
- Wilkes-Barre does not have the highest ozone readings in the MSA.
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</tr>
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<tbody>
<tr>
<td>Scranton/Wilkes-Barre/Hazleton MSA</td>
<td>566,574</td>
<td>60</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
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• DEP’s 2022 Annual Monitoring Network Plan (AMNP) opened for a 30-day comment period beginning on Saturday, July 30, 2022.

• DEP will respond to public comment and then submit to EPA Region 3 for their approval.

• Final approved AMNP and comment and response document will be published to DEP’s Bureau of Air Quality website.
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