



## OFFICE OF AIR QUALITY PLANNING AND STANDARDS

RESEARCH TRIANGLE PARK, NC 27711

27 September 2024

### **MEMORANDUM**

**SUBJECT:** National Performance Audit Program, PM<sub>2.5</sub> Performance Evaluation Program, and Lead Performance Evaluation Program Implementation Decision Memorandum for Calendar Year 2025

**FROM:** Richard A. Wayland, Director  
Air Quality Assessment Division

**TO:** Air Division Directors

This is notification to the Air Division Directors concerning the implementation of the PM<sub>2.5</sub> Performance Evaluation Program (PM<sub>2.5</sub>-PEP), the Lead Performance Evaluation Program (Pb-PEP) and the National Performance Audit Program (NPAP). This memorandum is our annual follow-up to provide monitoring organizations time to make an informed decision whether to implement these performance evaluations or to approve a redirection of a State and Tribal Assistance Grant (STAG) to the U.S. Environmental Protection Agency (EPA). If redirection is chosen, the EPA will implement these audit activities as associated program support.

There are two options for satisfying this requirement: (1) self-implementation of adequate and independent audits or (2) EPA implementation of PM<sub>2.5</sub>-PEP, Pb-PEP and/or NPAP using STAG grant funds. We request that each monitoring organization under your jurisdiction decide by October 30 for the following calendar year (CY) 2025 implementation:

- whether they will implement the PM<sub>2.5</sub>-PEP themselves,
- whether they will implement the Pb-PEP themselves, and
- whether they will implement the NPAP themselves.

A “no” to any answer will indicate that for CY 2025 the monitoring organization approves the redirection of fiscal year (FY) 2025 STAG funds to the EPA for federal implementation for the program marked “no.”

Details of the independence and adequacy requirements for these programs are found in guidance documents on the Ambient Monitoring Technical Information Center (AMTIC)<sup>1</sup>. An agency will need

---

<sup>1</sup> See specific links for PM<sub>2.5</sub>-PEP, Pb-PEP, and NPAP under the National Quality Assurance Programs on the [AMTIC QA page](#):

- (1) [2007 NPAP/PEP Self-Implementation Memo](#)
- (2) [2009 PM<sub>2.5</sub>-PEP Adequacy and Independence Memo](#)
- (3) [2008 NPAP Adequacy and Independence Memo](#)

to demonstrate compliance with these requirements to be approved for self-implementation. Attachment 1 provides the highlights of this guidance. Note that the NPAP and annual performance evaluations are two distinct programs in the ambient air quality assurance regulations (40 CFR Part 58 Appendix A). One type of audit cannot be substituted for the other or one audit to count for both purposes.

In previous years, each EPA region was tasked to perform one PM<sub>10-2.5</sub>-PEP sampling event per year, even though the quality assurance (QA) requirements for PM<sub>10-2.5</sub> were removed from Appendix A in 2016. While these data were used to assess data uncertainty, after further review and consideration, EPA has determined these measurements superfluous and that the resources can be better utilized elsewhere. **Therefore, EPA is no longer requiring PM<sub>10-2.5</sub>-PEP sampling events to be performed and will not consider PM<sub>10-2.5</sub>-PEP sampling in funding and implementation expense planning.**

Attachment 2 provides the information we need regarding each monitoring organization. Those primary quality assurance organizations (PQAOs) in your Region that confirm their site and sampler counts will not change in from CY 2024 to CY 2025 need not complete Attachment 2. We will continue to utilize these responses to enable the PEP and NPAP to plan and implement audits and expedite resulting QA data for the annual data certification process.

As part of the grant allocation process, the Office of Air Quality Planning and Standards (OAQPS) will propose that 2025 STAG funds be redirected to OAQPS for all monitoring organizations that did not self-implement the PEP(s) or NPAP in CY 2024. This includes those organizations who, by October 30, 2024, declare their intent to perform the work in CY 2025. If those monitoring organizations demonstrate their capability to implement the PM<sub>2.5</sub>-PEP, Pb-PEP, and NPAP to the EPA Region by November 15, 2024, the FY2025 funds will be distributed to the monitoring organization. If the self-implementing SLTs encountered implementation delays and are unable to launch in CY 2025, the funds will be used for the federally implemented NPAP and/or PEP(s) for those organizations.

If you have any questions, please contact Greg Noah (noah.greg@epa.gov).

Attachments (2)

## Attachment 1

### Background

The PM<sub>2.5</sub>-PEP, Pb-PEP, and NPAP are performance evaluations, which is a type of audit where quantitative data are collected independently to evaluate the proficiency of an analyst, monitoring instrument, or laboratory. The programs:

- Allow for data comparability and usability across sites, networks, instruments, and laboratories;
- Provide a level of confidence that monitoring systems are operating within an acceptable level of data quality so data users can make decisions with acceptable levels of certainty;
- Verify the precision and bias estimates reported by the monitoring organizations;
- Assure the public of non-biased assessments of data quality;
- Provide a quantitative mechanism for the EPA to defend the quality of data; and
- Provide information to monitoring organizations on how they compare with the rest of the nation, in relation to the acceptance limits, and to assist in corrective actions and/or data improvements.

### PM<sub>2.5</sub>-PEP Definitions of Adequate and Independent

PM<sub>2.5</sub>-PEP definitions of adequate and independent, and the implementation requirements, have been previously provided in a memorandum sent to the Regional Air Program Managers for Ambient Monitoring and Air Monitoring Quality Assurance Contacts. An attachment to the memorandum, [\*PM<sub>2.5</sub> PEP Adequacy and Independence Criteria: Monitoring Rule Requirements and Supplemental Guidance\*](#), provided detailed guidance for determining the independence and adequacy of monitoring organization programs proposing to assume their PM<sub>2.5</sub>-PEP responsibilities. The memorandum and attachment (linked above) can both be found on [AMTIC's Ambient Air Monitoring Quality Assurance webpage](#). The major elements from these documents are summarized below.

**Adequate** - Adequacy for the PM<sub>2.5</sub>-PEP is described in 40 CFR Part 58 Appendix A Section 2.4.

As described in Section 3.2.4 of 40 CFR Part 58 Appendix A, PQAOs with less than or equal to five PM<sub>2.5</sub> monitoring sites are required to have five valid audits<sup>2</sup> conducted per year distributed across the 4 quarters. PQAOs with more than five sites are required to have eight valid audits conducted per year distributed across the 4 quarters. The EPA requires:

- One hundred (100) percent completeness in meeting the annual PQAQO-level sampling requirement. See discussion on “Valid Audits” below for details.
- Each method designation represented among the primary monitors must be subjected to a PM<sub>2.5</sub>-PEP sampling event each year.

---

<sup>2</sup> A valid PM<sub>2.5</sub>-PEP audit is defined in 40 CFR Part 58 Appendix A Section 3.2.4 as one in which both the primary monitor and PEP audit concentrations are valid and equal to or greater than 2 µg/m<sup>3</sup>.

- Each individual primary monitor must be subjected to a PM<sub>2.5</sub>-PEP sampling event at least once every six years.

**Independent** - The following definition comes directly from the [1998 PM<sub>2.5</sub>-PEP Implementation Plan](#) found on AMTIC:

**Independent assessment** - *An assessment performed by a qualified individual, group, or organization that is not part of the organization directly performing and accountable for the work being assessed. This auditing organization must not be involved with the generation of the routine ambient air monitoring data. An organization can conduct the PEP if it can meet the above definition and has a management structure that, at a minimum, will allow for the separation of its routine sampling personnel from its auditing personnel by two levels of management. In addition, the pre- and post-sample weighing of audit filters must be performed by a separate laboratory facility using separate laboratory equipment. Field and laboratory personnel would be required to meet the PEP field and laboratory training and certification requirements. The participating auditing organizations are also required to participate in the centralized field and laboratory standards certification process to ensure comparability to federally implemented programs and ease of data entry into AQS.*

**Comparable** - 40 CFR Part 58 Appendix A Section 3.2.4 states that the monitoring organizations are responsible for performing the evaluations “...under the PEP or a comparable program.” We interpret this to mean that any PEP assumed by a state, local, or tribal (STL) monitoring organization will be run similarly to the federal PEP, as set out in the attachment, and will periodically be subject to performance evaluations with the federal PEP conducted within its respective EPA Region.

### **Pb-PEP Definitions of Adequate and Independent**

Pb-PEP definitions of adequacy and independence are very similar to the PM<sub>2.5</sub>-PEP. The following major elements have not changed and are summarized below.

**Adequate** - As described in Section 3.4.7 of 40 CFR Part 58 Appendix A, PQAOs with less than or equal to five Total Suspended Particulate (TSP) Pb monitoring sites are required to have one valid<sup>3</sup> Pb-PEP audit conducted per year. PQAOs with more than five sites are required to have two valid audits conducted per year. In addition, each year, PQAO with less than or equal to five sites shall provide four samples from its collocated (precision) site(s) and PQAO with greater than five sites shall provide six samples from its collocated sites, all of which must be sent to the same laboratory for analysis as the (independent) performance evaluation audit. The EPA requires:

- One hundred (100) percent completeness in meeting the annual PQAO-level sampling requirement. See discussion on “Valid Audits” below for details.

More details on the criteria are available in the [Pb-PEP Implementation Plan](#) and the

---

<sup>3</sup> A valid Pb-PEP audit is one in which both the primary monitor and PEP audit concentrations are valid and equal to or greater than 0.002 µg/m<sup>3</sup>.

independence and adequacy criteria for Pb is the same as the criteria for PM<sub>2.5</sub> (see the [2009 PM<sub>2.5</sub>-PEP Adequacy and Independence Memo](#)).

**Independent** - The following definition comes directly from the [2009 Pb-PEP Implementation Plan](#) found on the [Pb-PEP AMTIC page](#):

***Independent assessment** - An assessment performed by a qualified individual, group, or organization that is not part of the organization directly performing and accountable for the work being assessed. This auditing organization must not be involved with the generation of the routine ambient air monitoring data. An organization can conduct the Pb-PEP if it can meet this definition and has a management structure that, at a minimum, will allow for the separation of its routine sampling personnel from its auditing personnel by two levels of management, as illustrated below. In addition, the sample analysis of audit filters must be performed by a separate laboratory facility using separate laboratory equipment. Field and laboratory personnel would be required to meet the Pb-PEP audit field and laboratory training and certification requirements. The monitoring organizations will be required to participate in the centralized field and laboratory standards certification and comparison processes to ensure comparability to federally implemented programs and ease of data entry into AQS.*

**Comparable** - 40 CFR Part 58 Appendix A Section 3.4.7 states that the monitoring organizations are responsible for performing the evaluations “...under the NPEP... or a comparable program.” We interpret this to mean that any Pb-PEP program that is assumed by an SLT monitoring organization will be run similarly to the federal Pb-PEP, as set out in the attachment, and will periodically be subject to performance evaluations with the federal Pb-PEP conducted within its respective EPA Region. In this situation the PQAO may choose to run the entire Pb-PEP as an independent program, or they may choose to continue to provide the requisite number of supplemental PEP samples from their sites at which collocated precision samplers are deployed.

## Valid Audits

The improvement in air quality over recent years has increased the incidence of daily measured concentrations of Pb and PM<sub>2.5</sub> that are equal to or less than the minimums to be considered valid for the purpose of bias assessments. Monitoring agencies may assume that they will not have to acquire more than one make-up sample for the PM<sub>2.5</sub>-PEP and one for each part of the Pb-PEP (independent and collocated).

## NPAP Definitions of Adequate and Independent

**Adequate** - The following is a definition of adequate for NPAP implementation as promulgated in 40 CFR Part 58 Appendix A Section 3.1.3 and as detailed in this and other posted NPAP implementation guidance documents:

- Performing audits of the primary monitors at 20 percent of monitoring sites per year, and 100 percent of the sites every six years.
- Conducting the NPAP audits at a different time from the Annual Performance Evaluations (APEs); preferably at least one week apart. The national NPAP has little

control over the scheduling of the APEs; however, PQAOs are encouraged not to schedule APEs within a week of NPAP audits so quality assurance activities can be distributed across the year.

- Developing a delivery system that will allow for the audit concentration gases to be introduced to the probe inlet where logistically feasible.
- Using audit gases that are verified against the National Institute of Standards and Technology (NIST) standard reference methods or special review procedures and validated annually for CO, SO<sub>2</sub> and NO<sub>2</sub>, and at the beginning of each quarter of audits for O<sub>3</sub>.
- Utilize an audit system equivalent to the federally implemented NPAP audit system and is separate from equipment used in APEs. If this system does not generate and analyze the audit concentrations, as the national system does, its equivalence to the national system must be proven to be as accurate as the national system under a full range of appropriate and varying conditions (see validation/certification).
- Perform a whole system check by having the NPAP system tested against an independent and qualified EPA laboratory, or equivalent. The national systems are checked this way by Region 2, Region 7, and Research Triangle Park (RTP) at least once every two years.
- Evaluate the system with the EPA NPAP through collocated auditing at an acceptable number of sites each year (at least one for an agency network of five or less sites; at least two for a network with more than five sites). The comparison tests results would have to be no greater than five percent different, per point, for O<sub>3</sub> and seven percent different, per point, for NO<sub>2</sub>, SO<sub>2</sub>, and CO from the EPA NPAP results.
- Incorporate the NPAP in the PQAQO's quality assurance project plan.
- Be subject to review by independent, EPA-trained personnel.
- Participate in initial and update training/certification sessions documented in uniform, EPA developed checklists and written exams, and certified by EPA-NPAP trained execution-experienced EPA personnel, who have themselves been certified by participating in the latest annual training.

**Independence** - Independence is proposed in guidance using the PEP 1998 definition with minor wording revisions for NPAP as written below:

***Independent assessment*** - *An assessment performed by a qualified individual, group or organization that is not part of the organization directly performing and accountable for the work being assessed. This auditing organization must not be involved with the generation of the routine ambient air monitoring data. An organization can conduct the NPAP if it can meet the definition and has a management structure that, at a minimum, will allow for the separation of its routine sampling personnel from its auditing personnel by two levels of management. Independent for NPAP audits also requires a second, independent set of equipment and standards. A self-implementing agency may not use the same system they use for their annual audits. The auditor must not be the same auditor who audited the site for the annual audit. The same audit must not be reported for both the annual and NPAP (national) audit for a site.*

**Comparable** - 40 CFR Part 58 Appendix A Section 2.4 states that the monitoring organizations are responsible for performing the NPAP and must meet the adequacy requirements found in the appropriate Appendix A sections (Section 3.1.3). We interpret this statement to mean that any NPAP program that is assumed by an SLT monitoring organization will be run similarly to the federal NPAP and will periodically be subject to performance evaluations with the federal NPAP conducted within its respective EPA Region.

To ensure comparability of the audits, NPAP training requirements have been developed and are referenced in the NPAP QAPP in Section A8. Initial training and certification are described in detail for EPA staff, contractors, and self-implementing PQAOs in the QAPP.

NPAP requires that 20 percent of the monitoring sites in a PQAO are audited each year. All monitoring sites across the PQAO must be audited over the course of six years; however, if auditing at the 20 percent rate, an entire PQAO could be audited in only five years. The six-year time frame was chosen to allow time for the NPAP coordinators to target specific sites that should be audited on a more frequent basis. For example, a design value site or a site close to a design value may be audited on a more frequent basis to provide more data quality information without incurring an additional burden, in both cost and time, on the audit group.

40 CFR Part 58 Appendix A details two separate performance evaluation assessment requirements, which should not be construed as the same program:

1. Section 3.1.2 details the APE requirements, and
2. Section 3.1.3 details the NPAP requirements.

### **Program Costs**

OAQPS consults annually with each EPA Regional PEP/NPAP Lead to evaluate program costs. Differences in contractor labor rates, varying costs of living by region, different regional audit totals, and travel length differences in each Region define the amount of holdback by region. OAQPS also accounts for the annual cost for technical documentation and data management support provided by the QA contractor, recertification of NIST-traceable calibration standards, and the shipping and analytical (PM<sub>2.5</sub> gravimetric and Pb ICP-MS) services.

OAQPS also includes depreciation of equipment needed for running the PEP samplers in the annual regional PEP estimates. Specific estimated costs for regional programs can be obtained through the regional PEP/NPAP Leads, and OAQPS costs can be obtained through the OAQPS National Program Coordinators.

## Attachment 2

### Performance Evaluation Program (PEP) and National Performance Audit Program (NPAP) Reporting Organization Implementation Decision Form for Calendar Year 2025

EPA Region	State #	State Abbreviation	PQAO

PQAO Responsible Official:	
----------------------------	--

Number of PM <sub>2.5</sub> SLAMS/PAMS/SPM Sites	
Number of Pb SLAMS/PAMS/SPM Sites	
Number of Gaseous SLAMS/PAMS/SPM Sites; Please ID NCore Sites	

PM <sub>2.5</sub> -PEP Question	(Yes or No) <sup>3</sup>	NPAP Question	(Yes or No) <sup>3</sup>
Do you plan to implement <sup>1</sup> an adequate/independent PM <sub>2.5</sub> -PEP in 2025? <sup>2</sup>		Do you plan to implement <sup>1</sup> an adequate/independent NPAP in 2025? <sup>2</sup>	

Pb-PEP Question	(Yes or No) <sup>3</sup>
Do you plan to implement <sup>1</sup> an adequate/independent Pb-PEP in 2025? <sup>2</sup>	

1. This means the monitoring organization could implement their own adequate/independent program or participate in some other state, local, or consortium-run adequate/independent program.
2. Regions must approve capability by November 15, 2024.
3. A “no” will indicate that the monitoring organization, for CY 2025, approves redirection of FY 2025 STAG funds to the EPA for federal implementation.