

GAO Report & EPA Response: Asset Management – A Proposal

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2022 NAAMC

Background



- GAO released a report : “Air Pollution: Opportunities to Better Sustain and Modernize the National Air Quality Monitoring System.”(November 2020) <https://www.gao.gov/products/GAO-21-38>
- The GAO evaluated the national air quality monitoring system to examine its role in managing air quality and to identify:
 - “...challenges in managing the system and actions to address them,” and,
 - “...needs for additional air quality information and actions to address challenges in meeting those needs.”
- The GAO considered literature; laws and regulations; agency documentation; interviews of EPA personnel at the HQ and regional levels; interviews with state and local air agencies, air quality organizations, and other stakeholders; and gained hands-on experience with low-cost sensors.



- The GAO report highlights the fact that “...the ambient air monitoring system is a national asset that provides standardized information for implementing the Clean Air Act and protecting public health.”
- The GAO identified challenges which are rooted in:
 - Aging infrastructure;
 - Flat or declining grants (considering inflation);
 - Inconsistencies in EPA oversight and in state and local agency management practices; and
 - Competing priorities between required work, national and local issues, emerging technology, and growing informational needs.

Two Recommendations



- ❑ Recommendation #1: “The [EPA]...in consultation with state and local agencies, should develop, make public, and implement an asset management framework for consistently sustaining the national ambient air quality monitoring system. EPA generally agreed with this recommendation.
- ❑ Recommendation #2: “The [EPA]...in consultation with state and local agencies and other relevant federal agencies, should develop and make public an air quality monitoring modernization plan to better meet the additional information needs of air quality managers, researchers, and the public. EPA generally agreed with this recommendation.

Asset Management Recommendation



- GAO suggests that EPA “...in consultation with state and local air agencies, should **develop, make public, and implement an asset management framework** for consistently sustaining the national ambient air quality monitoring system.”
- GAO details successful state management practices, and points at the need to identify the resources needed for sustenance, to manage infrastructure risks, and to target resources to provide the greatest value.

EPA Response: Asset Management



- The EPA generally agrees that improved asset management will aid the sustenance of the national ambient air monitoring program.
- EPA noted existing reports and procedure that can be leveraged to assist this effort:
 - Annual Monitoring Network Plans (AMNPs)
 - National Program Manager Guidance (NPMG)
 - 5-year Network Assessments
 - Additional data assessments as well as programmatic and overarching strategies.
- Key requirement will be collaboration with state, local, and tribal air agency partners.
 - Defining objectives and pathways to meet them
 - Using existing examples of success
 - Understanding needs, opportunities, and concerns

EPA Response:

Asset Management (cont.)



The EPA provided a general time frame for actions in addressing the asset management recommendation:

- FY21/22: Engage stakeholders to discuss asset management. Outcomes include:
 - Defining asset management principles and objectives.
 - ID opportunities to include, improve, and otherwise report asset management metrics.
 - Identify common, implementable practices to address infrastructure risk.
 - Discuss resource needs.
- FY22/23: Based on engagement feedback, work with partners to:
 - Develop the plan to manage resource allocations.
 - Work to identify additional resource needs for sustaining ambient air monitoring networks.
 - Make the plan publicly available on the Ambient Monitoring Technology Information Center website (<https://www.epa.gov/amtic>)
- FY24/25: Assist state, local and tribal air agencies in reviewing their networks, leveraging the 5-year network assessment and investing in their networks.

What is Asset Management?



Asset Management is the systematic integration of advanced and sustainable management techniques that focus on the long-term life cycle of assets and their sustained performance.

- Asset management programs improve decision making through the lifetime of an asset, resulting in lower total costs of ownership balanced with increasing asset availability and reliability.
- In our situation, we are focusing mainly on physical assets and supporting infrastructure and information technology that allow for the generation of air pollution data.

Inquiring about Asset Management



The EPA engaged with EPA regions and some state and local air agencies to gather feedback on the GAO recommendation.

- Who already has successful asset management programs and what do they look like?
- What oversight is being provided by EPA?

➤ Numerous air agencies have successful asset management approaches and programs.

- Variety of methods from spreadsheets, commercial products and software, to custom built solutions. SLTs pick different solutions for their situation or needs.

➤ EPA does provide some oversight, but it is inconsistent.

- EPA Region 4 has negotiated asset management reporting into grant terms and conditions.
- Nationally, we only have pieces of the information needed.

Asset Management Framework

Proposal Concept



The EPA is proposing an asset management framework that will rely upon submission of asset data by state, local, tribal, and federal partner air agencies.

- SLTs will share asset data with EPA Regions on an annual basis at the same time as annual monitoring network plans;
- Using a standard reporting template;
- Focusing primarily on physical hardware, direct supporting infrastructure, and information technology that are needed to generate air pollution data.
- ❖ This effort will be piloted in 2023. The EPA will work with stakeholders to improve the process and implement necessary improvements for 2024 forward.

Who participates?



All state, local, and tribal air agencies who receive CAA 103 and 105 funds, along with federal air agency partners, who generate and collect air pollution data for use in decision making and for public benefit will participate.

- EPA plans to build this into the grant terms and conditions negotiated with air agencies who receive federal funds each year.
- This also will be complementary and supportive of existing requirements to track assets acquired with federal funds in 2 CFR 200.
 - 2 CFR 200 lays out requirements for grantees and EPA with respect to the use of federal funds. This provides the authority to have grantees carry out asset management and for EPA to have oversight.

What will participants need to do?



Participants will create a process, or leverage existing resources, to review asset inventories and document critical pieces of information and metrics about monitoring related assets for reporting.

- The EPA is creating a straw categorical listing of what might qualify as an asset, as well as key metrics that need to be known about each individual asset.
- Participants will provide the necessary information to their EPA region using a standardized template on an annual basis, at the same time they make their AMNP available for review.
 - This will provide an annual “snap-shot” to EPA.

What is an asset?



The EPA anticipates that assets needing to be reviewed and tracked at least will include:

- Monitors and samplers (gas analyzers, PM methods, toxics sampling apparatus, etc.)
- Operational support hardware (calibrators, zero air generators, sampling manifold systems, shelters, enclosures, platforms, racks, etc.)
- Information technology support (data loggers, computers, hardware and specialized software for data acquisition, etc.)
- Meteorological equipment
- ❖ The EPA strongly believes that air agencies will directly benefit from increased inclusivity and detailing of their assets.

What should be known about an asset?



The EPA has a straw listing of what information should be known about each asset, including:

- Owner (SLT, Federal entity, and/or contractor/industrial partner)
 - Make/Model/Serial Number
 - Pollutant(s)/Analyte(s) measured (as applicable)
 - Acquisition date
 - Acquisition condition (new/used)
 - Acquisition cost
 - Current age
 - Location
 - Operational status (In service, spare, storage, parts, surplus, etc.)
 - Condition (TBD – Good, Fair, Poor)
- ❖ Additional data like unique SLT identifiers, repair history, replacement forecasts, operational availability, etc. would be useful to air agencies, and may be allowed for inclusion in reporting.

How will participants benefit?



Collecting and reviewing asset data will allow air agencies to better manage their programs, including understanding costs and risks in the cycle of:

- Acquiring assets
- Operating and maintaining assets
- Repairing or upgrading assets
- Determining when to replace assets

Air agencies can use asset data analysis to:

- Improve decision making that will reduce risk of mission failure, and
- Create management plans or feed programs that maximize asset performance while considering budgets.

What will EPA do with the data?



- At the EPA Regional level, asset data will be useful in discussing network plans, operations, and how federal funds are being applied in conjunction with SLT resources.
- Nationally, a shared, aggregated asset dataset could put all air agencies in a position gain insights on general inventories, asset performance and reliability, turnover, costs, and more.

Next Steps



- Summer/Fall 2022
 - EPA will release a written asset management framework proposal for SLT and federal partner review.
 - Proposal will include a straw categorization of target assets and associated metrics.
 - EPA will conduct outreach on the proposal to solicit feedback and take written comment for set period of time.
- Fall/Winter 2022/2023
 - EPA will take feedback and comments into account and generate the plan for the asset management framework.
 - Create a list of milestones that lay out the expected process for the 2023 Pilot.
- Spring/Summer of 2023
 - Promote and manage the pilot process.
- Late 2023/Early 2024
 - EPA will gather feedback and review the 2023 pilot experience to further adapt the framework in preparation of adoption for use in 2024.



Questions?

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