



# At a Glance

## Evaluation of the EPA's Oversight of State and Local Ambient Air Monitoring Operating Schedules

### Why We Did This Evaluation

#### To accomplish this objective:

The U.S. Environmental Protection Agency Office of Inspector General conducted this evaluation to determine whether the EPA's oversight and implementation of air quality monitoring resulted in underreported air pollution.

Under the Clean Air Act, the EPA sets standards, known as National Ambient Air Quality Standards, for air pollutants that are harmful to public health and the environment. If an area meets these standards, it is designated as an attainment area. If it does not meet these standards, it is designated as a nonattainment area.

Using thousands of air monitors at sites across the country, the EPA works with state and local air monitoring agencies to gather information about air pollution. Some air monitoring sites operate daily, but others operate on a predictable, intermittent schedule. Typically, the intermittent air monitoring sites will operate once every three, six, or 12 days. References to these air monitor sites use the terms "1-in-3," "1-in-6," and "1-in-12," respectively. The term "pollution gap" refers to the difference in average pollution measurements between an air monitoring site's online and offline days when measured by alternative, non-EPA monitoring methods.

#### To support these EPA mission-related efforts:

- *Improving air quality.*
- *Compliance with the law.*

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### What We Found

Our statistical analyses indicate that pollution levels increase when certain air quality monitoring sites are offline. When some ambient air quality monitoring sites were offline, fine particulate matter air pollution increased on average by about 4 percent for daily monitoring sites and 9 percent for 1-in-3 monitoring sites. Further analyses indicated that 35.70 percent of sites that operated intermittently rather than daily had worse air quality on average when they were offline. While the results of our analyses do not indicate malicious behavior at any specific site, they demonstrate that there is a risk of underreported air pollution. The Clean Air Act requires the EPA to protect air quality, and the Agency will struggle to achieve this statutory mission if air quality monitoring data are not representative of the actual air quality.

Two factors may contribute to underreported air pollution. First, the EPA publishes its intermittent air monitoring schedule on its website, creating an opportunity for regulated entities to time peak emissions for when a monitoring site is offline. When the EPA determines that the air quality in an area does not meet the standards, the Clean Air Act requires state and local governments to develop a plan to improve air quality. Such a plan can include costly emission controls, which may incentivize regulated entities to alter their emission patterns. Second, although EPA staff review air monitoring data, the EPA does not have the capacity to identify underreported air pollution within such a large volume of air quality data. This limitation creates opportunities for state and local air monitoring agencies to strategically turn off monitoring sites on days that they expect high pollution, potentially to avoid the EPA designating an area as in nonattainment.

When considering the pollution gap, 18 percent of the air monitoring sites in our analysis that had worse air quality when they were offline switch from indicating area attainment to indicating area nonattainment. This indicates that there is a risk that the Agency is not effectively obtaining the data it needs to make accurate attainment designations, meaning that it may incorrectly designate nonattainment areas as attainment areas. Accordingly, regulated entities in incorrectly designated areas would not be required to take measures to improve air quality, potentially resulting in poorer air quality and health outcomes for people residing and working in these areas.

**Without data that are representative of the actual air quality, people may be exposed to harmful and hidden levels of air pollution, leading to serious health consequences.**

### Recommendations and Planned Agency Corrective Actions

We make two recommendations in this report. We recommend that the assistant administrator for Air and Radiation restrict the distribution of the intermittent monitoring schedule to state, local, and tribal air monitoring agencies and associated labs and discourage broader dissemination of and access to the intermittent monitoring schedule. In addition, we recommend that the assistant administrator implement a regular screening process using alternative air pollution measurements to detect monitoring sites that may be underreporting air pollution. The EPA agreed with our recommendations. We consider both recommendations resolved with corrective actions completed or pending.