FACT SHEET
FINAL DECISION
PRIMARY NATIONAL AMBIENT AIR QUALITY STANDARD FOR SULFUR OXIDES

ACTION

- On February 25, 2019, the EPA announced its decision to retain, without revision, the existing national ambient air quality standard (NAAQS) for sulfur oxides (SO_X) of 75 ppb, as the annual 99th percentile of daily maximum 1-hour SO_2 concentrations, averaged over three years. The existing primary (health-based) standard provides health protection for the at-risk group (people with asthma) against respiratory effects following short-term (e.g., 5-minute) exposures to SO_2 in ambient air.

- SO_2 is the component of sulfur oxides for which we have the greatest concern for public health. Accordingly, the current primary (health-based) NAAQS for sulfur oxides is in terms of SO_2.

- In the prior review of the standard, completed in 2010, the EPA significantly strengthened the health-based, primary standard, establishing a 1-hour standard and revoking the 24-hour and annual standards. The evidence from health studies available in the 2010 review showed that people with asthma experience negative respiratory effects following very short (e.g., 5-10 minute) exposures to SO_2 while breathing at elevated rates. The evidence available in this review is consistent with the evidence available at the time of the 2010 decision.

- The scientific evidence also supports the Administrator's conclusion that the current standard continues to meet the Clean Air Act's requirement for the primary standard to be set at a level that, based on the scientific evidence "and allowing an adequate margin of safety", is "requisite to protect the public health."

- Based on their review of draft documents in this review, the EPA's independent science advisors, the Clean Air Scientific Advisory Committee (CASAC), concluded that the newly available evidence supports retaining the current primary standard, without revision.

PROGRESS IN REDUCING SO_2 EMISSIONS AND EXPOSURE

- As a result of Clean Air Act programs and efforts by state, local, and tribal governments since 1980, maximum ambient air concentrations of SO_2 have declined 90 percent.

- There are currently 40 nonattainment areas designated for the current 1-hour primary SO_2 standard, due primarily to emissions from the electrical generating units (EGUs). Once an area is designated as nonattainment, air agencies are responsible for preparing and implementing control plans to reduce these emissions in order to achieve attainment of

the standard. The EPA is currently working with states to ensure that the plans for these areas adequately address emissions of SO_2 so that they will be able to attain the standard by the statutory attainment dates.

- On July 25, 2013, the EPA designated 29 areas in 16 states as nonattainment, but did not at that time designate other areas (Round 1). A court-order required the agency to complete the remaining SO_2 designations by three specific deadlines: July 2, 2016 (Round 2, completed for 65 areas in 24 states); December 31, 2017 (Round 3,completed for all remaining areas except where states chose to install and operate new SO_2 monitors by January 2017); and December 31, 2020 (Round 4 will be for areas where state chose to install and operate new monitors by January 2017).

BACKGROUND

- The Clean Air Act requires the EPA to set national ambient air quality standards for "criteria pollutants." Currently, sulfur oxides and five other major pollutants are listed as criteria pollutants. The others are oxides of nitrogen, ozone and other photochemical oxidants, carbon monoxide, lead, and particulate matter. The law also requires the EPA to periodically review the relevant scientific information and the standards and revise them, if appropriate, to ensure that the standards provide the requisite protection for human health and the environment.

- Sulfur oxides are emitted into air from specific sources (e.g., fuel combustion processes) and also formed in the atmosphere from other atmospheric compounds (e.g., as an oxidation product of reduced sulfur compounds, such as sulfides). Sulfur oxides are also transformed in the atmosphere to particulate sulfur compounds, such as sulfates. Sulfur oxides known to occur in the troposphere include SO_2 and sulfur trioxide (SO_3). As a result of rapid atmospheric chemical reactions involving SO_3, the most prevalent sulfur oxide in the atmosphere is SO_2.

- Fossil fuel combustion is the main man-made source of SO_2 emissions, while volcanoes and landscape fires (wildfires as well as controlled burns) are the main natural sources. Based on the 2014 National Emissions Inventory (NEI), the largest SO_2-emitting sector within the U.S. is electricity generation, of which 97% of SO_2 from electricity generation is from coal combustion. Other man-made sources of SO_2 emissions include industrial fuel combustion and process emissions, industrial processing, commercial marine activity, and fire used in landscape management and agriculture.

FOR MORE INFORMATION

- To download a copy of the final action, go to the EPA's Web site at: https://www.epa.gov/so2-pollution/primary-national-ambient-air-quality-standard-naaqs-sulfur-dioxide.

- Today's decision and other background information are also available either electronically at http://www.regulations.gov, the EPA's electronic public docket and comment system, or in hardcopy at the EPA Docket Center's Public Reading Room.

    - The Public Reading Room is located in the EPA Headquarters, Room Number 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern standard time, Monday through Friday, excluding Federal holidays.

    - Visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.

    - Materials for this action can be accessed using Docket ID No. EPA-HQ-OAR-2013-0566.