



## OFFICE OF AIR AND RADIATION

WASHINGTON, D.C. 20460

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Via Electronic Mail: [ntenney@sirillp.com](mailto:ntenney@sirillp.com)

Dear Mr. Tenney:

Thank you for your letter of October 16, 2023, concerning the releasing of sulfur dioxide from balloons into the air. The release of sulfur dioxide or other sulfur compounds into the stratosphere is a form of stratospheric aerosol injection (SAI), often referred to as geoengineering.

There are federal agency efforts underway to research this topic. In the Consolidated Appropriations Act, 2022, the White House Office of Science and Technology Policy (OSTP), in coordination with relevant Federal agencies, was directed by Congress to develop a five-year – “scientific assessment of solar and other rapid climate interventions in the context of near-term climate risks and hazards. The report shall include: (1) the definition of goals in relevant areas of scientific research; (2) capabilities required to model, analyze, observe, and monitor atmospheric composition; (3) climate impacts and the Earth’s radiation budget; and (4) the coordination of Federal research and investments to deliver this assessment to manage near-term climate risk and research in climate intervention.”

U.S. Environmental Protection Agency (EPA) was one of the agencies that contributed to the development of this research plan, which was published in July 2023. We recognize that geoengineering is an important research topic and are continuing to follow developments. The research plan can be found at [www.whitehouse.gov/ostp/news-updates/2023/06/30/congressionally-mandated-report-on-solar-radiation-modification/](https://www.whitehouse.gov/ostp/news-updates/2023/06/30/congressionally-mandated-report-on-solar-radiation-modification/).

As a result of Clean Air Act programs and efforts by state, local, and tribal governments since 1980, maximum ambient air concentrations of SO<sub>2</sub> have declined 90 percent. The Clean Air Act requires EPA to set national ambient air quality standards for sulfur oxides as one of the six criteria pollutants. The national standards for sulfur oxides are currently set using SO<sub>2</sub> as the indicator of the larger group of sulfur oxides. The national standards for SO<sub>2</sub> specify maximum amounts of sulfur dioxide to be present in outdoor air, and limiting SO<sub>2</sub> in the air protects human health and the environment. The current

primary (health-based) standard for SO<sub>2</sub> is 75 parts per billion. Downwind states' ability to attain and maintain national ambient air quality standards. These programs have delivered substantial reductions in power sector emissions of SO<sub>2</sub> along with significant improvements in air quality and the environment."

In addition, the EPA operates several programs to reduce sulfur dioxide (SO<sub>2</sub>) emissions from fossil fuel-fired power plants. Beginning in 1995, as a result of the 1990 Clean Air Act (CAA) Amendments, the EPA implemented the Acid Rain Program, which set a nationwide cap on SO<sub>2</sub> emissions from the power sector to reduce acid rain. Building on the success of the Acid Rain Program, the EPA implemented the Cross-State Air Pollution Rule, which required additional SO<sub>2</sub> reductions beginning in 2015 under the CAA's "good neighbor" provision to address cross-state transport of air pollution that inhibits

Again, thank you for your letter. I appreciate the opportunity to be of service and trust the information provided is useful.

Sincerely,



Joseph Goffman  
Principal Deputy Assistant Administrator