

March 29, 2023

Martha Guzman  
Regional Administrator  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, California 94105  
[guzman.martha@epa.gov](mailto:guzman.martha@epa.gov)

Dear Regional Administrator Guzman:

The California Air Resources Board (CARB) and San Joaquin Valley Air Pollution Control District (District) are providing the enclosed documents at the request of United States Environmental Protection Agency (EPA) staff to support action on the Attainment Plan Revision for the 1997 Annual PM<sub>2.5</sub> Standard (15 µg/m<sup>3</sup> SIP Revision) submitted in 2021.

The following documents support CARB and the District's assertion that ammonia is not considered an attainment precursor and that space and water heater controls are at the best available control measure level pertaining to the 15 µg/m<sup>3</sup> SIP Revision:

1. Ammonia: Supplemental Information for EPA in Support of 15 ug/m<sup>3</sup> Annual PM<sub>2.5</sub> Standard (Ammonia Supplemental Information) clarifies CARB's assessment of ammonia as a precursor to fine particulate matter (PM<sub>2.5</sub>) for the 15 µg/m<sup>3</sup> annual standard by summarizing information previously submitted to EPA and providing new detailed control measure analysis; and
  - a. Appendix A: List of Ammonia Control Measures and Associated Studies for Animal Feeding Operation
  - b. Appendix B: Cost Analysis for Venting Ammonia Emissions from Swine Housing to a Wet Scrubber or Biofilter
2. Building Electrification Technical Supplement for the 1997 Annual PM<sub>2.5</sub> NAAQS (Building Electrification Technical Supplement) includes CARB and District analyses relating to best available Control Measure for space and water heaters.
  - a. Appendix F of the 2022 Scoping Plan Building Decarbonization

Thank you for the opportunity to provide this clarifying information. The Ammonia Supplemental Information summarizes and reinforces the findings on ammonia as a precursor previously submitted to EPA in four documents provided between 2019 and 2021 and includes a detailed control analysis for ammonia sources. The Building Electrification Technical Supplement reinforces that space and water heaters are controlled at a best available control measure level in the San Joaquin Valley.

CARB is committed to working with EPA staff to provide any additional clarifying information needed to support approval of the 15 ug/m<sup>3</sup> SIP Revision. Further, CARB will continue to work with your regional office in developing field monitoring to better understand ammonia emissions and ammonia hot spots. If you have any questions, please contact Edie Chang, Deputy Executive Officer, at (916) 445-4383, or have your staff contact Michael Benjamin, Chief, Air Quality Planning and Science Division, at (916) 201-8968.

Sincerely,



Steven S. Cliff, Ph.D., Executive Officer

Enclosures (5)

cc:

Elizabeth Adams, Director, Air and Radiation Division, U.S. Environmental Protection Agency, Region 9  
[adams.elizabeth@epa.gov](mailto:adams.elizabeth@epa.gov)

Samir Sheikh, Executive Director/Air Pollution Control Officer, San Joaquin Valley Air Pollution Control District  
[samir.sheikh@valleyair.gov](mailto:samir.sheikh@valleyair.gov)

Edie Chang, Deputy Executive Officer

Michael Benjamin, D.Env., Division Chief, Air Quality Planning & Science Division