



THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OCT - 8 2014

Mr. George A. Allen  
Chairman  
Air Monitoring and Methods Subcommittee  
Clean Air Scientific Advisory Committee  
Science Advisory Board  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, D.C. 20460

Dear Mr. Allen:

Please accept my gratitude for the Clean Air Scientific Advisory Committee's hard work on the recent thorough review of the proposed nitric-oxide chemiluminescence method as an additional federal reference method for ozone measurement. We have reviewed the advisory committee's recommendations in your July 28, 2014, letter. The EPA agrees with the recommendations and has implemented a number of actions to address them.

As the CASAC recommended, EPA staff will thoroughly assess results of its additional field tests on the NO-CL method using the ozone data on the NO-CL method collected during the Denver field study from July 13 to August 11, 2014. The data are currently being analyzed against the current ethylene chemiluminescence federal reference method and recently designated federal equivalent methods.

Consistent with the CASAC recommendations, Appendix D of 40 CFR Part 50, *Reference Measurement Principle and Calibration Procedure for the Measurement of Ozone in the Atmosphere*, has undergone a major revision to include both the original ET-CL as well as the new NO-CL methodology and to add more detail. The calibration procedure now provides more flexibility in the range of the linearity test. In addition, performance specifications have been concurrently updated in 40 CFR part 53 Tables B-1 and B-3 to address the response to the charge question.

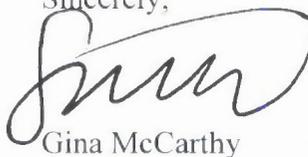
During the Denver field study this past summer, EPA researchers also collected ozone data with the UV-CL method to further evaluate its performance. The data are currently being analyzed against the ozone federal reference method and approved federal equivalent methods to assess the UV-SL method to address the issue regarding the zero offset.

The EPA agrees with the CASAC that other systems for measurement of ozone, including quantum cascade laser-based tunable multi-pass IR absorption spectroscopy, cavity ring down spectroscopy and cavity attenuated phase shift spectroscopy, are not practical at this time to be considered as ozone federal reference methods. Our researchers will continue to follow the further technological development of such instrumentation and their potential as candidates for federal reference methods.

We also agree with you that the low-cost, portable air-pollution monitors and sensors currently are not sufficiently developed to be considered federal reference methods or as federal equivalent methods. They may, however, be very useful for a variety of other applications. Our researchers are currently evaluating a variety of sensors and assessing their potential applications other than as federal reference methods or federal equivalent methods.

On behalf of everyone at the EPA, I thank you once more for providing thoughts on the federal reference methods.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gina McCarthy', written in a cursive style.

Gina McCarthy



# THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OCT - 8 2014

H. Christopher Frey, Ph.D.  
Chairman  
Clean Air Scientific Advisory Committee  
Science Advisory Board  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, D.C. 20460

Dear Dr. Frey:

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Gina McCarthy