May 15, 2020

Dr. Zaida Figueroa
Designated Federal Officer
Science Advisory Board
U.S Environmental Protection Agency
Washington, DC 20460

Dr. Figueroa:

Thank you for the opportunity to provide comments to the COVID-19 Review Panel within the EPA's Science Advisory Board (SAB). The Urban Air Initiative (UAI) is a 501c4 with a focus on fuel quality and the associated impacts on air quality and human health.

The health related concerns of air quality and the association with increased serious medical issues including higher death rates with the COVID-19 pandemic has made the headlines recently. The SAB Review Board, under the Research Category in the Research Question List (April, 20, 2020) asks the question, does long term exposure to pollution increase the susceptibility of respiratory viruses like SARS-Cov-2, or exacerbate the existing COVID-19 infection?

UAI believes there is a significant risk factor to both lung disease, cardio vascular disease, as well as a host of related health issues that directly correlate to fuel quality, both here in US as well as in other countries. Current studies often utilize PM2.5 measurements since this is widely measured in ambient air sampling. Ultra-Fine Particulates (UFPs) less than .1 micron (PM.1) data are not readily available from stationary monitoring sites. Per this study by Dr. Posner with Carnegie Mellon, 40 percent of particulates in urban areas come from gasoline vehicles.

With UFP emissions, there is also an association of Polycyclic Aromatic Hydrocarbon (PAH's) since UFP's will not occur until there is PAH formation and growth. Not only are there a multitude of health studies related to the direct emission impacts of UFP's and PAH's but this recent study by Dr. Riedel with EPA shows the mutagenic emissions created by aromatics and PAH's during photooxidation.

Public health suffers from poor fuel quality, a results of EPA's historical practice of failing to utilize real world fuels to determine motor vehicle emissions. EPA's **Mo**tor **V**ehicle **E**missions **S**imulator (MOVES) model is not based on fuel related emissions using real world fuel properties. Nor does the EPA MOVES model use real world fuel properties in the MOVES model's defaults. Despite UAI's repeated efforts to work with EPA to correct the MOVES model, and improve fuel quality, EPA has failed to consider impact of not using emissions data reflecting real fuels.

Recently, a UAI funded study highlights the need to utilize real world fuel properties when modeling motor vehicle emissions. This issue of test fuels was also pointed out in this 2019 SAE paper and by Ford and General Motors in this 2014 SAE paper. This paper by Ford and General Motors calls out the use of match blended test fuels by EPA as being "fundamental flawed".

The health concerns of aromatic, UFP's, PAH's, and even Secondary Organic Aerosol's (SOA's) have been identified in numerous health studies, but the research connecting these emissions back to the source are limited. Mostly due to the failure to standardize how test fuels are created. The current approach is unfortunately downplaying the dangers of using aromatics in our fuel supply.

UAI would welcome the opportunity to present these current issues as well as a clear pathway to making substantial reductions to these mentioned emissions. Until the inputs going into these models are corrected to represent real world emissions, these models, such as the EPA MOVES model, will not provide the pathway towards cleaner fuels, nor identify the primary sources.

Thank you for your time and consideration on this issue.

Respectfully,

Steve Vander Griend
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