

BOARD OF HEALTH

for Madison and Dane County

Dr. Jerry Halverson, Chair
Robin Lankton, Vice Chair
Gene Musser, Second Vice Chair
Dane County Supervisor Holly Hatcher
City of Madison Alder Matt Phair
Ceri Jenkins

DATE: January 27, 2021

TO: Middleton Town Board
Cynthia Richson, Chair

SUBJECT: Response to Town of Middleton regarding AVGas

Chair Richson,

The Board of Health for Madison and Dane County has received your letter dated January 4, 2023 regarding ongoing concerns related to use of leaded aviation fuel at the Middleton Municipal Airport (Morey Field). In your letter, you assert the following that we intend to address:

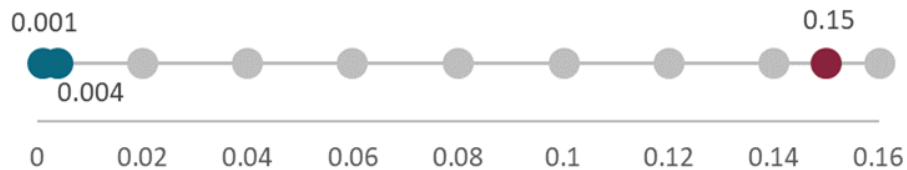
- a) Public Health's report is "...totally lacking in conclusions and recommendations...";
- b) Public Health's report does not significantly acknowledge the full scope of the Trinity modeling report;
- c) Although Public Health's report acknowledges there is no safe level of lead it still "cites an outdated 2008 U.S.EPA Lead National Ambient Air Quality Standard";
- d) Results of a United States Geological Survey (USGS) study that found lead in 2 wells with an isotopic finger print that matches the leaded aviation fuel used at Morey Field.
- e) That BOH must either believe lead is not a danger or advise people of the risk and provide recommendations.

Page one of our report clearly describes the importance of lead as a health issue. On page 4, we clearly discuss the academic basis for concern about airport emissions. Finally, our recommendations, included in the section "action to mitigate air lead emissions" (page 9), are exactly those made by the National Academies of Sciences-Engineering-Medicine" in their "Consensus Study Report" dated January, 2021.

We carefully reviewed both Trinity Consultant reports during our review of this issue. These reports made clear the amount of lead that is expected to be produced by use of leaded aviation at Morey Field and the amount observed through measurements of lead in air. While we agree that it would be best to minimize lead emissions to the air, the levels shown in the Trinity Consultants report and confirmed by their sampling are significantly lower than environmental ambient air regulations, as shown in the figure below (Trinity Consultants, 2022 and US EPA, 2022).

The levels detected by Trinity Consulting are below the ambient air level standard set in 2016 by the EPA.

Trinity Consulting detected levels between 0.001 and 0.004 $\mu\text{g}/\text{m}^3$. The ambient air level standard set in 2016 by EPA is 0.15 $\mu\text{g}/\text{m}^3$.



The report also is in agreement that there is no “safe” level of lead exposure for children. However, there are still established standards and regulations that allow for small levels of lead to exist in our environment. These standards and regulations exist because the US EPA and other regulatory bodies have determined that it is currently not feasible to require no detectable lead as the threshold of compliance. Whether we agree with this or not, neither Public Health Madison & Dane County nor the Board of Health have the authority to establish more restrictive standards and regulations in Dane County. The Wisconsin Department of Natural Resources is the regulatory agency responsible for enforcing air quality regulations and may be a more appropriate agency to consider your request to further regulate airport operations.

At the December 19, 2022 meeting of the Middleton Town Board, we were interested to learn about the results of the USGS study in 2022. Scientists presenting for the USGS shared a lot of data with the audience but made it clear that the data was preliminary and they could not make any conclusions at that time. Given that the scientists have not yet made any conclusions, it may be premature to conclude that the lead found in wells at very low levels is a unique isotopic match for leaded aviation fuel, exclusively. It is also important to note that the absolute levels of lead found in these two wells were 0.043 and 0.792 $\mu\text{g}/\text{L}$ which is much lower than the current US EPA action level of 15 $\mu\text{g}/\text{L}$. The presenters did not report finding any aviation fuel in runoff, pore water, or soil samples. We look forward to learning more from the USGS report once it is available and taking action as necessary and if appropriate based on the recommendations they provide.

The Board is aware of the importance of the eventual elimination of lead from aviation fuel. We strongly support actions at Morey Field to reduce and eventually eliminate the use of leaded aviation fuel and are encouraged by action taken by the City of Middleton in November 2022 to acquire a fuel truck for this purpose. On a national level, multiple entities are aggressively addressing this goal. These include EAGLE (a joint effort of the aviation community, fuel suppliers and distributors, airports, engine and aircraft manufacturers, the FAA, and others), the Piston Aviation Fuels Initiative, EPA, airports-including Morey, and others. The trajectory to elimination is clear and though the timeline may not suit all involved, the end point of elimination is clearly in sight. Bruce Lanphear, MD, MPH, a national expert on

childhood lead poisoning, has expressed the hope and expectation that this would be by 2025, if not sooner. We are encouraged by the changes that the attention to this issue has already precipitated and strongly urge the airport to continue work to minimize and eventually eliminate the use of leaded aviation fuel.

Sincerely,

Board of Health for Madison and Dane County

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References

1. National Academies of Sciences, Engineering, and Medicine 2021. Options for Reducing Lead Emissions from Piston-Engine Aircraft. Washington, DC: The National Academies Press.
2. Trinity Consultants. (2022). Measurement of ambient lead concentrations around the Middleton Wisconsin Municipal Airport-Morey Field (C29)
https://town.middleton.wi.us/vertical/Sites/%7B97A50AAB-3824-4833-ACEA-EF2B9A14C856%7D/uploads/C29_Airport_Lead_Report_091522-3_email.pdf
3. Trinity Consultants. (2022). Screening level assessment of ambient lead concentrations around the Middleton Wisconsin Municipal Airport. Available at:
https://town.middleton.wi.us/vertical/Sites/%7B97A50AAB-3824-4833-ACEA-EF2B9A14C856%7D/uploads/C29_Lead_Report_031822.pdf
4. United States Environmental Protection Agency. (2022). NAAQS Table.
<https://www.epa.gov/criteria-air-pollutants/naaqs-table>
5. United States Environmental Protection Agency. (2022). National Primary Drinking Water Regulations. <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#Inorganic>