

Texas Commission on Environmental Quality (TCEQ)

Comments to the Agency for Toxic Substances and Disease Registry (ATSDR) Health Consultation for Midlothian Area Air Quality *Review and Analysis of Volatile Organic Compounds (VOCs) and Metal Exposures in Air*

The TCEQ appreciates the opportunity to comment on the ATSDR Health Consultation: *Midlothian Area Air Quality Petition Response – Review and Analysis of Volatile Organic Compounds (VOCs) and Metal Exposures in Air (Public Comment Version, released August 26, 2015)*. Below, please find our comments. We hope that consideration of these comments will assist ATSDR in refining the Health Consultation so that the most complete, accurate, and useful end product is available to the citizens of Midlothian.

General Comments

As a general issue of concern in the draft health consultation, the reader is led to believe the air quality may have caused adverse health effects in the past when air monitoring in the Midlothian area indicates acceptable air quality. Further, air quality in Midlothian is better than most monitored areas of the country. This could lead to undue anxiety for the citizens of Midlothian.

We also note that the level of any given screening value does not constitute a bright line where health effects are expected to occur. On the contrary, these screening values are set at a level that protects the general population as well as sensitive subpopulations, incorporating an adequate margin of safety. Therefore, the simple fact that ambient air at a community monitoring site or modeled value exceeded a given screening value does not indicate (1) that citizens were actually exposed to that concentration, (2) that the concentrations measured at that monitor constitute unsafe exposures, or (3) that health effects would be expected from exposure to that concentration. The TCEQ looks forward to continuing to work with ATSDR to address the findings and recommendations made in this report and to sharing additional data and information that will produce the best possible product for the public and for policymakers.

Specific Comments

The document lacks proper explanation that it is evaluating ambient air concentrations, not exposure concentrations. Actual exposure will depend on the locations where citizens travel during the day and their physical activity during those times. A considerable amount of research has been conducted that shows most people typically spend the majority of their day (~90%) inside, not outside, a finding quoted by the EPA when discussing indoor air issues. It has also been shown that indoor air quality is typically worse than outdoor air quality.¹ These are important

¹ “In the last several years, a growing body of scientific evidence has indicated that the air within homes and other buildings can be more seriously polluted than the outdoor air in even the largest and most industrialized cities. Other research indicates that people

factors that ATSDR should consider.

The document concludes that all pollutants, except sulfuric acid, were found to be either monitored or modeled at concentrations below levels of health concern. As stated by ATSDR, the conclusion for sulfuric acid is based solely on modeled concentrations from emissions data rather than measured concentrations. While modeled data can be useful, it does not depict reality. In this case, the worst-case scenario was used. Using worst-case scenario assumptions is an extremely conservative approach that is not reflective of real-life scenarios. Therefore, it is inappropriate to base a conclusion on a scenario that does not exist in actuality. In addition, it is stated that the sulfuric acid aerosol estimates were only slightly higher than the screening values, which would not indicate that health effects would be expected – as stated above, screening values do not constitute a bright line and have an ample margin of safety built in.

Throughout the document, when describing the pollutants evaluated, it would be helpful if chemical abstract service numbers (CAS Numbers) were given as pollutants have multiple names.

The document utilizes several ambient comparison values developed by the TCEQ; however, some of the values used are not correct. The TCEQ has two different types of screening values, effects screening levels (ESLs) and air monitoring comparison values (AMCVs). ESLs are developed for air permitting purposes and take into account multiple emission sources while AMCVs are developed specifically for use in evaluating ambient air monitoring data. Therefore, it is inappropriate to use an ESL when an AMCV is available (for more detailed information, please see <http://www.tceq.texas.gov/toxicology/faqs/common-questions-about-tceq-toxicity-factors>).

The following should be updated in the evaluation:

Pollutant	CV Used in Document ($\mu\text{g}/\text{m}^3$)	Correct TCEQ AMCV ($\mu\text{g}/\text{m}^3$)	Notes
Acrolein	3.7	11	The short-term AMCV is the value that should be used
Acrylonitrile	40	1,100	The short-term AMCV is the value that should be used
Benzene (noncancer)	4.5	280	The value used for the noncancer screening is a cancer-based value. For screening noncancer, the listed chronic value should be used
Bromodichloromethane (noncancer)	671 (short-term); 67 (long-term)	700 (short-term); 70 (long-term)	The short- and long-term AMCVs should be updated to be correct
Carbon Tetrachloride	126	130	The short-term AMCV should be

spend approximately 90 percent of their time indoors. Thus, for many people, the risks to health may be greater due to exposure to air pollution indoors than outdoors.” From “The Inside Story: A Guide to Indoor Air Quality”, available at: <http://www.epa.gov/iaq/pubs/insidestory.html>

Pollutant	CV Used in Document ($\mu\text{g}/\text{m}^3$)	Correct TCEQ AMCV ($\mu\text{g}/\text{m}^3$)	Notes
(noncancer)			updated to be correct
Chloroform (noncancer)	97.3 (short-term); 9.7 (long-term)	100 (short-term); 10 (long-term)	The short- and long-term AMCVs should be updated to be correct
Dibromodichloromethane	19.6 (short-term); 1.96 (long-term)	20 (short-term); 2 (long-term)	The short- and long-term AMCVs should be updated to be correct
Ethylene Dichloride (noncancer)	162	160 (1-hr) & 16 (24-hr)	The short-term AMCV should be updated to be correct; in addition to the 1-hr value, TCEQ has a 24-hr value, which is more appropriate for comparison with 24-hr average concentrations
Arsenic (noncancer)	0.1	9.9	The short-term AMCV is the value that should be used

Page 34: Background concentrations for 1,3-butadiene are stated as ranging from 0.1 – 2 $\mu\text{g}/\text{m}^3$. All averages are within the background range, even though the ATSDR CREG is 0.04 $\mu\text{g}/\text{m}^3$. More emphasis should be given to the fact that the measured concentrations are within typical background for this compound.

Page 37: The text states that USEPA calculated the average background concentration for carbon tetrachloride is 0.63 $\mu\text{g}/\text{m}^3$, which is the same average concentration in Midlothian. The Midlothian average is identical to average background, even though the ATSDR CREG is 0.19 $\mu\text{g}/\text{m}^3$. More emphasis should be given to the fact that the measured concentrations are within typical background for this compound.

Page 40-41: Background concentrations for chloroform are stated as ranging from 0.1 – 10 $\mu\text{g}/\text{m}^3$, with an average background concentration of 0.2 $\mu\text{g}/\text{m}^3$. All averages are within the background range, even though the ATSDR CREG is 0.049 $\mu\text{g}/\text{m}^3$. More emphasis should be given to the fact that the measured concentrations are within typical background for this compound.

Page 43: Heading states Dibromodichloromethane, but the text states dibromochloromethane. Text should be fixed to reflect correct pollutant.

Page 46: Text states that “No studies could be found that identified a relationship between inhaling 1,2-DCA and developing cancer.” The authors may want to read the following study: Nagano et al. 2006, *Carcinogenicity and chronic toxicity in rats and mice exposed by inhalation to 1,2-dichloroethane for two years*. J Occup Health. 48(6): 424-36.

Page 47-48: Text states CalEPA REL of 0.015 $\mu\text{g}/\text{m}^3$ will be used, but table states TCEQ AMCV

of 0.01 $\mu\text{g}/\text{m}^3$ used. Text/table should be updated to reflect the correct value used in the evaluation.

ATSDR Recommendations

ATSDR recommends that TCEQ should continue to conduct community air monitoring and add sulfuric acid as an analyte to see if it is actually a problem. Routine air monitoring by TCEQ (and its predecessor agency, TNRCC) began in the Midlothian area in 1981 and has continued through to the present time. Overall, the air monitoring data from the Midlothian area compose an impressively rich data set. While copious amounts of air quality data were reviewed for the health consultation, the draft report fails to put into context the overall air quality in Midlothian. Monitored air toxics concentrations in Midlothian are not only acceptable and in compliance with federal regulations, but are much lower than concentrations measured in many other areas of the nation.

Regarding the recommendation to add sulfuric acid as an analyte, TCEQ currently measures VOCs, hydrogen sulfide (H_2S), nitrogen oxides (NO_x), ozone (O_3), speciated metals measured as particulate matter less than 2.5 micrometers in diameter ($\text{PM}_{2.5}$), $\text{PM}_{2.5}$, and sulfur dioxide (SO_2) at the Midlothian OFW monitoring site. In effect, by currently measuring SO_2 , the TCEQ is also monitoring for sulfuric acid. According to the USEPA, the National Ambient Air Quality Standard (NAAQS) for SO_2 is designed to protect against exposure to the entire group of sulfur oxides (SO_x). SO_2 is the component of greatest concern and is used as the indicator for the larger group of gaseous SO_x . Other gaseous SO_x (e.g., sulfur trioxide and sulfuric acid) are found in the atmosphere at concentrations much lower than SO_2 . In August, 2015, the USEPA promulgated a rule directing state and tribal air agencies to provide data to characterize current air quality in areas with large sources of SO_2 emissions (emissions greater than 2,000 tons per year or more of SO_2). Industries located in Midlothian emit less than 2,000 tons per year SO_2 and are therefore not subject to this rule. In other words, SO_2 emissions from these industries are not classified as large sources and are not considered to be of concern. Based on the information presented by ATSDR, the TCEQ does not agree that there is a need for ambient air monitoring for sulfuric acid in Midlothian.

It should also be noted that, as the state environmental agency, the role of TCEQ is to protect our state's public health and natural resources. Therefore, TCEQ considers protection of public health not only when evaluating ambient air data, but also when issuing air (or other media) authorizations. We use methods and models that are protective of public health with an adequate margin of safety.

Brochure

The brochure states that "Sensitive populations may have been affected in the past and may still be affected by pollutants from the facilities." This contradicts the findings of the health consultation. The health consultation identifies only one pollutant, sulfuric acid, as being of potential concern based on estimated concentrations predicted using worst-case modeling assumptions. No other pollutants were measured or modeled at levels of concern. By saying "pollutants", the document is misleading the reader.