

Texas Commission on Environmental Quality (TCEQ)

Comments to the Agency for Toxic Substances and Disease Registry (ATSDR) Health Consultation for Midlothian Area Air Quality *Evaluation of Health Outcome Data*

The TCEQ appreciates the opportunity to comment on the ATSDR Health Consultation: *Midlothian Area Air Quality Petition Response – Evaluation of Health Outcome Data (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 lead 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.

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. 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

Summary

Page xvii – xxiv: Analyzing all birth defects together (crude rates) has limited value. The epidemiology and causes of outcomes of specific birth defects are different so the logic of lumping them together may be questionable and misleading to the public.

Chemicals of Concern

Page 5: Air Sampling from 1997-2008 (11 years) – the text suggests that there were concentrations of sulfur dioxide (SO₂) that could have harmed the health of sensitive individuals. The concentrations are not mentioned in the text and the location for these alleged concentrations is also not well defined – it appears to be primarily around the industries in the southern part of Midlothian. It would be informative if the document stated whether this occurred in an industrial or residential area. Contrary to this statement, as TCEQ stated previously in our February, 2013, comments on the Health Consult: *Assessing the Public Health Implications of the Criteria (NAAQS) Air Pollutants and Hydrogen Sulfide*, Midlothian has been, and continues to be, in compliance with the applicable SO₂ NAAQS (the following paragraphs are re-stated from the TCEQ Comments on the NAAQS and H₂S draft Health Consult).

The SO₂ NAAQS are set at a level that includes an adequate margin of safety to protect public health. The phrase margin of safety indicates that the NAAQS must include a safety factor to compensate for the inherent uncertainties in available scientific data, making the level conservative. During the most recent review of the SO₂ NAAQS, after extensive consideration of the exposure duration, EPA determined that a 1-h standard was most appropriate. This 1-h standard is considered protective of human populations that are particularly susceptible to health problems associated with breathing SO₂.

The Midlothian area has been, and continues to be, in compliance with the applicable SO₂ NAAQS. Thus, SO₂ levels in the Midlothian area, as defined by the NAAQS, are not of concern to public health.

The document also states that PM_{2.5} “...could have resulted in cardiopulmonary problems for some people.” Again, the concentrations are not mentioned in the text and the location for these alleged concentrations is also not well defined. On the contrary, as TCEQ stated previously in our February, 2013, comments on the Health Consult: *Assessing the Public Health Implications of the Criteria (NAAQS) Air Pollutants and Hydrogen Sulfide*, Midlothian has been, and continues to be, in compliance with the applicable SO₂ NAAQS (the following paragraphs are re-stated from the TCEQ Comments on the NAAQS and H₂S draft Health Consult).

First, we note that the Midlothian area has been and continues to be in compliance with the PM NAAQS, which is set at a level that protects public health (including sensitive subpopulations) with an adequate margin of safety. Therefore, we disagree with the conclusion that health effects were likely to occur as a result of potential exposure to these levels of PM_{2.5} on either an annual or a 24-hour basis.

Second, concentrations of PM_{2.5} were estimated from PM₁₀ measurements, based on a conversion factor of 0.47-0.52, with an adjustment of 2 µg/m³, for data prior to 2005. We note that when assessing potential health effects following this conversion from PM₁₀ to PM_{2.5}, additional uncertainty is introduced into the analysis. This source of uncertainty should be acknowledged in the draft consultation. Furthermore, the available PM₁₀ and PM_{2.5} measurements were not taken from collocated monitors, but from different sites on

the same day. These sites are much farther from potential PM sources than fence-line monitors, such as the one at Gerdau Ameristeel. Consequently, the ratio of PM_{2.5} to PM₁₀ should be lower nearer to a dust source. In high dust areas throughout Texas, it is not unusual to observe ratios of 0.3 or less.

Therefore, the ATDSR estimated PM_{2.5} levels are likely to be too high for some sites, such as the Gerdau Ameristeel fence-line site. Finally, dust concentrations decrease rapidly with distance from a source; fence-line measurements may significantly over-estimate concentrations that would occur even a relatively short distance away, on the order of a tenth of a mile or more.

Page 6: 1993-1998 – This section indicates that the area north of the Gerdau Ameristeel fence line “could have posed a risk in children”. Distance to the north from the fence line is not indicated, neither is it indicated if this is in a residential area or not.

Birth-Related Health Outcomes

Page 17: It is stated that 12 cases of Down syndrome were identified in Ellis County and were three times higher than expected; however, the comparison group for this is not stated (e.g., California’s Down Syndrome rates).

Page 18: It is stated that cases delivered between 1997-2001 to mothers residing in Midlothian, Venus, and Cedar Hill were compared to rates of Texas from 1999-2001 – why are there differences in the comparison dates? In order to make a proper comparison, dates should be the same, if the possible.

Page 24: It is not indicated whether the adjusted prevalence for ostium secundum type ASD was statistically significantly lower than the Texas adjusted prevalence. The Texas adjusted prevalence is not mentioned, but should be, or a reason given as to why it is not.

Page 25: The document states that, “After adjusting for maternal age and race, none of these five conditions remained significantly higher in the potential area of impact compared to Texas.” Were the rates for Texas adjusted or crude?

The following sentence in the same paragraph as above stated, “One condition (other specified anomalies of the ear (744.2)) remained significantly higher in Midlothian compared to the Texas crude prevalence (Table 4.1.5).” Were the rates for other specified anomalies of the ear for Midlothian adjusted or crude?

Page 29: Last sentence of the first paragraph states that there were 12 cases in the five year period (1997-2001), but this contradicts the previous sentence where it states of 102 cases per 10,000. Are the 12 cases adjusted?

Page 32: Table 4.1.11 should include Texas rates.

Childhood Lead Exposure

Page 56: The document found that past lead exposures during the period of 1993-1998, in a localized area just north of the Gerdau Ameristeel fence line, were at concentrations that may have harmed the health of children who resided or frequently played in the area. The document does not state how far north. This information would be informative since just north of the fence line is undeveloped land. The document also does not state what the demographics were in this area at the time. This statement should be deleted if ATSDR is just “assuming” children were in the area.

It was predicted that 18-21% of the children (how many children) in the area (define the area sampled) from 1993-1998 had blood lead levels 5-10 micrograms per deciliter. The total number of children used for the prediction, and the specific area sampled need to be defined. The data presented in the section was collected from 1997-2009, where did the data for the years 1993-1996 come from?

Page 60: The summary contradicts the introduction paragraph – these should be consistent.

Chronic Diseases

Page 65& 75 & 80 & 86: It should be noted that BRFSS data is self-reported data that may be subject to response bias and confounding issues.

Page 66 & 70 & 76-77: Since data cannot be used to determine prevalence or used to compare one area to the other, the efficacy of the Public Use Data File analysis is questionable.

Page 77: The data does not account for confounding issues in the document.

Page 84: It is stated that modeled emissions of sulfuric acid aerosols “...found concentrations that can be acutely irritating to the eyes, nose, and skin.” The document refers to other Midlothian Health Consults (not the specific one(s)) and does not give the concentrations or when the concentrations were predicted to have occurred.

Page 88: ALS is given as a concern of the citizens, but the fundamental question that should be answered is whether or not ALS would be expected to be associated with air quality.