# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

March 10, 2014

Dr. H. Christopher Frey
Chair, Clean Air Scientific Advisory Committee
Science Advisory Board
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Dr. Frey:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the 2014 *Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards*, which will serve as the basis for the Administrator's decision regarding the ozone National Ambient Air Quality Standards (NAAQS). We have a number of concerns regarding the evaluation of the available evidence by EPA. We urge CASAC to consider these issues in making its recommendations to the Environmental Protection Agency (EPA).

Although EPA utilized the causal framework outlined in the Integrated Science Assessment, it is not clear that this was done in a rigorous, clear, and consistent manner. The EPA should have evaluated all relevant data using clearly-specified criteria and determined whether, evaluating across all realms of evidence, causation is more likely than alternative hypotheses. However, EPA has given more weight to positive studies and discounted results that do not support ozone related health effects at concentrations below the current standard.

The Policy Assessment (PA) considered evidence for respiratory effects associated with ozone exposure. The key studies used by EPA report small changes in respiratory function but have numerous limitations. The controlled human exposure studies that examined lung function effects at concentrations below 72 ppb do not report statistically significant differences between ozone exposure and filtered air (not background ozone levels). In addition, clinical guidelines such as those from the American Thoracic Society indicate that lung function decrements in the absence of symptoms do not constitute an adverse effect. Indeed, review of the available evidence indicates that lung function effects near or below the current standard are within the range of intra-individual variability in normal subjects and not considered adverse with respect to clinical guidelines.

EPA also considers mortality associated with short-term and long-term exposure to ozone. However, the available evidence does not support a consistent association between ozone exposure and mortality. This is especially true if one considers the heterogeneity of effects estimates between cities and the confounding effects of co-pollutants. EPA should discuss these considerations in the context of determining a national standard for ozone and should eliminate statements in the Policy Assessment that describe this evidence as "consistent." The TCEQ finds

it especially troubling that the EPA selected a single study (Jerrett *et al.* 2009) that reports positive associations for long-term exposure to ozone and mortality, when previous investigators analyzing this cohort have not found such associations. Combined with the observation that mortality was not determined to be a "causal" endpoint for long-term exposure to ozone in the Integrated Science Assessment, we urge EPA to remove this analysis from the Policy Assessment.

The Policy Assessment describes uncertainty separately from the core analysis of risk, leading to misperception of that risk. For example, upon reading the appendices for the underlying analysis presented in the Health Risk and Exposure Assessment (HREA), it is clear that for some areas of the U.S. (including Houston), mortality is estimated to increase for some alternative standards under consideration. We urge EPA to consider retaining the current standard due to the significant uncertainty surrounding these estimates.

Also, the PA should more thoroughly discuss personal exposure to ozone. EPA should explain the limitations of setting standard for ambient air based on clinical exposures when HREA states that most people spend the majority of their time indoors. Similarly, it is unclear how the results of modeling presented in the HREA were paired with the information from studies indicating daily personal exposure is well below any of the benchmarks suggested. EPA points out in Figure 5-15 of the HREA that the upper end of daily average ozone personal exposure is well less than 20 ppb, well below the current standard and the range of proposed alternate standards. The TCEQ urges EPA to consider personal exposure in setting the ozone standard, which would lead to the conclusion that the current standard is more than adequately health–protective.

Finally, we would like to point out that many of these same concerns have been raised by members of CASAC in their individual comments in the past. We find it troubling that these issues have not been communicated to the Administrator in the consensus statements of CASAC. We urge the committee to continue to consider these issues and clearly highlight to the Administrator the uncertainty and ambiguity inherent in the scientific evidence. Given the significant impact of the NAAQS, we urge that no change be recommended.

Sincerely,

Richard A. Hyde, P.E.
Executive Director