

TCEQ Independent Workshop on Ozone NAAQS Science and Policy

Session 2

In Session 2 of the Workshop, the Science Panel will discuss key questions regarding the scientific evidence and uncertainties related to four areas that TCEQ thinks would benefit from the discussion and insight of the science and policy experts. The science experts are free to raise additional questions and topics that they think are important to discuss.

Four areas of discussion:

1. Ozone Mode of Action
2. Controlled Exposure Studies
3. Epidemiology Studies
4. Quantifying and Integrating the Evidence

Members of the Workshop Steering Committee presented key information on these four topics at the pre-workshop webinar. Slides and recordings from the webinar are available at <http://www.tera.org/Peer/ozone/index.html>. Session 2 is designed as a peer consultation – in that the outside scientific experts will discuss key issues with members of the Steering Committee who prepared the background information and webinar presentations. The outside experts will discuss and offer their opinions regarding the charge questions (see below). Dr. Michael Dourson of TERA will facilitate the discussion. Dr. Sabine Lange of TCEQ and Dr. Julie Goodman of Gradient will very briefly introduce the topics and Dr. Michael Dourson of TERA will facilitate discussion amongst the panel using the charge questions found below. The Policy Panel experts will be given the opportunity to ask the Science Panel questions.

Other attendees are invited to submit questions to the Science Panel. Because of the large number of attendees and webcast participants, questions will be submitted in writing. Those on the webcast can email questions to tox@tceq.texas.gov and those on-site can use the index cards provided. The Facilitator will review the questions during the breaks and present them to the Science Panel as time is available.

Session 2 Charge Questions

Ozone Mode of Action (MOA)

1. What do we know about ozone's MOA for morbidity and mortality? Is there a known key event or a critical effect (i.e., the first adverse effect or its known and immediate precursor)?
2. How do we apply ozone toxicology and MOA studies to questions of public health?
3. How do medical practitioners define an adverse/clinically relevant effect?

Controlled Exposure Studies

4. How do we relate exposure conditions and adverse outcomes in controlled exposure studies to the general population, including sensitive individuals?
5. How can the data from controlled human exposure studies be used to answer public health questions?

Epidemiology Studies

6. What associations are causal? What criteria are used to make this decision?
7. Considering exposure measurement error, how do ambient air concentrations in epidemiology studies relate to personal exposures and impact the interpretation of results of these studies?

Quantifying and Integrating the Evidence

8. How do we integrate all realms of evidence? How can and should uncertainty be presented to adequately inform risk assessors and decision makers?

Other Issues

9. Other issue or questions from the Outside Experts.

Science Panel (see program for biographies)

Outside Experts:

- Dr. George Maldonado, Associate Professor, University of Minnesota, School of Public Health
- Dr. Robert Phalen, Director Air Pollution Health Effects Laboratory, University of California, Irvine
- Dr. P. Barry Ryan, Professor, Department of Environmental Health of the Rollins School of Public Health, and Department of Chemistry, Emory University
- Dr. Mark Utell, Professor of Medicine and Environmental Medicine, University of Rochester Medical Center, School of Medicine and Dentistry

Presenters:

- Dr. Julie Goodman, Principal, Gradient
- Dr. Sabine Lange, Toxicologist, Toxicology Division, Texas Commission on Environmental Quality
- Dr. Sonja Sax, Senior Environmental Scientist, Gradient

Facilitator:

- Dr. Michael L. Dourson, Director, Toxicology Excellence for Risk Assessment

Session 4

For the final workshop session, a panel of policy experts will listen to all of the presentations, as well as the Science Panel discussions, and integrate this into a personal synthesis of the issues. In Session 4, the Policy Panel members will individually provide their personal remarks, followed by a facilitated discussion, after which each expert will make a final statement. Written questions from the other attendees will be considered and incorporated into the discussion by the Facilitator as time permits. The Steering Committee asked the policy experts to reflect upon two general questions and present their thoughts in the final session:

1. What are the most important scientific and/or societal considerations that you heard during this workshop that you would want the Administrator to be aware of when setting the ozone NAAQS?
2. How would you recommend integrating those salient considerations into a policy judgment on the ozone NAAQS that will serve the best interests of the nation while adhering to the legal requirements of the Clean Air Act?

Policy Panel (see program for biographies)

- Dr. Donald R. Arbuckle, Clinical Professor of Public Administration, University of Texas at Dallas
- Charles H. Knauss, Partner and Co-Head of Environment and Workplace Safety Practice, Katten Muchin Rosenman LLP
- Thomas A. Lorenzen, Partner, Dorsey & Whitney LLP
- Dr Paul R. Portney, President Emeritus of Resources for the Future; Dean Emeritus, Eller College of Management, University of Arizona
- Dr. Chris G. Whipple, Principal, ENVIRON International Corporation (retired), Session Facilitator