

**Summary Minutes of the
U.S. Environmental Protection Agency (EPA)
Clean Air Scientific Advisory Committee (CASAC)
and CASAC Oxides of Nitrogen Review Panel
Public Teleconference
January 24, 2017**

Date and Time: Tuesday, January 24, 2017, 1:30 PM – 4:30 PM ET

Location: Telephone and audio webcast

Purpose: To discuss the CASAC draft review of EPA's *Policy Assessment for the Review of the Primary National Ambient Air Quality Standards for Nitrogen Dioxide (External Review Draft – September 2016)*.

Participants: Chartered CASAC
Dr. Ana Diez Roux, Chair (for full CASAC, see CASAC roster¹)
Dr. Judith Chow
Dr. Ivan Fernandez
Dr. Jack Harkema
Dr. Elizabeth A. (Lianne) Sheppard
Dr. Ron Wyzga

CASAC Oxides of Nitrogen Review Panel (for full Panel, see Panel roster²)
Dr. Elizabeth A. (Lianne) Sheppard, Chair
Mr. George Allen
Dr. Judith Chow
Dr. Ronald Cohen
Dr. Douglas Dockery
Dr. Philip Fine
Dr. H. Christopher Frey
Dr. Jack Harkema
Dr. Michael Jerrett
Dr. Joel Kaufman
Dr. Michael Kleinman
Dr. Timothy Larson
Dr. Jeremy Sarnat
Dr. Richard Schlesinger
Dr. Ronald Wyzga
Dr. Jim Zhang

Mr. Aaron Yeow, Designated Federal Office (DFO)

Other Attendees (See Attachment A)

Opening Remarks

Mr. Aaron Yeow, DFO, opened the meeting. He stated that as required under the Federal Advisory Committee Act (FACA), the CASAC and the panel's deliberations are held in public with advanced notice given in the Federal Register³ and the meeting minutes will be made publicly available after the meeting. He noted that there although there is a public comment period noted on the Agenda⁴, no members of the public registered in advance with the SAB Staff Office to make oral comments. He stated that no written public comments were received. He noted that although it was not on the agenda, there would be an additional public clarifying comment period after the panel discussion of the report, prior to the CASAC disposition, should any members of the public or EPA wish to provide clarifying comments. He asked members of the public or EPA to email him if they wished to do so. He stated that the SAB Staff Office determined that there were no issues with conflict-of-interest nor any issues with an appearance of a loss of impartiality for any of the CASAC or CASAC panel members. He noted that as stated at the November 9-10, 2016 CASAC Oxides of Nitrogen (NOx) Panel meeting, Dr. Michael Jerrett, a coauthor of the McConnell study, has recused himself from any discussion regarding the use of the study or appropriateness of the study in the EPA's Policy Assessment (PA), but is available to answer questions about the study. He then turned it over to Dr. Lianne Sheppard, Chair of the CASAC NOx Panel.

Dr. Sheppard welcomed everyone and led the discussion of the draft CASAC PA report.

Discussion of the Draft CASAC PA Report

Consensus Responses to Charge Questions

For the Chapter 2 consensus response, the panel agreed to revise lines 24-29 of page 2 to clarify what the CASAC's recommendations were. For line 2 of page 4, the panel agreed to revisit it when discussing the research needs in the consensus response for Chapter 5. For the Chapter 3 consensus response, there was discussion regarding the studies cited on lines 35-37 of page 3. The panel agreed to remove mention of these studies from the Chapter 3 consensus.

For the Chapter 4 consensus response, there was discussion about whether to add cardiovascular outcomes to lines 2-4 for page 6. The panel agreed to adding a statement regarding emerging evidence for cardiovascular outcomes from long-term NO₂ exposure. For lines 16-20 on page 6, there was some discussion regarding whether to add indoor exposures. The panel decided to clarify that the elevated exposures were due to ambient NO₂. The panel also agreed to clarifying the active commuting activities. The panel agreed to adding a sentence stating that the draft PA accurately and clearly communicates the results of the analyses.

The panel agreed to clarify the CASAC's conclusions in the first paragraph of the Chapter 5 consensus response. The panel also agreed to clarify that Chapter 5 provided support to retain and not change the existing standard. There were suggested wording changes to the causality section on page 7 to make it more consistent with the terminology used in the PA, which the panel agreed to. There was discussion about adding cardiovascular outcomes as support for the averaging time. The panel decided not to include outcomes other than for respiratory effects due to their weaker causal determinations.

Regarding the future research needs in the Chapter 5 consensus response, for lines 34-41 on page 11 and lines 1-2 of page 12, the panel agreed to revise the research questions into statements and also to revise

line 2 of page 4 to clarify the need for research on NO₂ hotspots. The panel agreed to revise lines 22-23 of page 11 to clarify the need of meta-analysis as new studies emerge. The panel discussed psychosocial stress, agreed to delete line 27 on page 12, and to insert statements about psychosocial stress on line 20 and 29.

The panel discussed revisions suggested by Dr. Sheppard⁵ pertaining to consideration of consistency and coherence in the evaluation of the weight of evidence. The panel agreed to adding this as a new revised paragraph at the end of the Chapter 5 consensus response. The panel agreed to remove the last sentence and to use terminology consistent with the ISA/PA in describing health effect categories.

Letter to the Administrator

The panel agreed to moving the sentence on line 34 of the first page of the letter to the Administrator to the end of the paragraph. The panel agreed to changes to lines 34-39 of the second page of the letter to make the terminology consistent with the terminology in the ISA/PA. For the third page of the letter, the panel agreed to add a sentence to the end of line 36 and to deleting lines 38-42 and lines 1-2 of the fourth page of the letter.

Mr. Yeow indicated that he received no requests from the public or EPA to provide additional clarifying comments so he turned the meeting over to Dr. Ana Diex Roux, Chair of the CASAC, for the Chartered CASAC Disposition of the report.

Disposition of Draft CASAC PA Report

The Chartered CASAC members approved the report with the changes discussed by the panel.

Summary and Action Items

With business concluded, the meeting was adjourned by Mr. Yeow at 4:15 pm.

Respectfully Submitted:

Certified as Accurate:

/Signed/

/Signed/

/Signed/

Mr. Aaron Yeow
Designated Federal Officer
EPA SAB Staff Office

Dr. Ana Diez Roux
Chair
CASAC

Dr. Elizabeth A. (Lianne) Sheppard
Chair
CASAC Oxides of Nitrogen Panel

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by Panel members during the course of deliberations within the meeting. Such ideas, suggestions and deliberations do not necessarily reflect consensus advice from the Panel members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters or reports prepared and transmitted to the EPA Administrator following the public meetings.

Materials Cited

The following meeting materials are available on the CASAC website: <http://www.epa.gov/casac>, at the [January 24, 2017 CASAC and CASAC Oxides of Nitrogen Review Panel Meeting page](#):

¹ CASAC Roster

² CASAC Oxides of Nitrogen Review Panel Roster

³ Federal Register Notice Announcing the Public Meeting

⁴ Agenda

⁵ Comments from Dr. Lianne Sheppard

**ATTACHMENT A – Other Attendees
CASAC and CASAC Oxides of Nitrogen Review Panel Public Meeting**

Name	Affiliation
Alman, Breanna	USEPA
Ambrosio, Patrick	Bloomberg BNA
Burkett, Jeff	The Empire District Electric Co.
Chan, Elizabeth	USEPA
Dietrich, Casey	ASC Services
Driver, Laurel	
Dutton, Steve	USEPA
Fritz, Patricia	New York State Department of Health
Graham, Stephen	USEPA
Hetes, Bob	
Jenkins, Scott	USEPA
Kalish, Cathe	
Lackey, Leila	
Langworthy, Cindy	Hunton & Williams LLP
Moore, Brian	
Naess, Liz	
Nichols, Jennifer	USEPA
Owen, Chris	
Patel, Molini	USEPA
Pavlich, Dave	Phillips 66
Popovech, Marusia	ExxonMobil Biomedical Sciences, Inc.
Price, Doug	Tesoro Companies, Inc.
Sargent, Keith	
Schaefer, Heather	Texas Commission on Environmental Quality
Steichen, Ted	American Petroleum Institute
Vandenberg, John	USEPA
Watkins, Nealson	USEPA
Wesson, Karen	USEPA
Wierman, Susan	Mid-Atlantic Regional Air Management Association
Williams, Melina	USEPA
Woods, Clint	Association of Air Pollution Control Agencies