

**Summary Minutes of the
U.S. Environmental Protection Agency (EPA)
Clean Air Scientific Advisory Committee (CASAC)
and CASAC Sulfur Oxides Panel
Public Teleconference
June 20, 2017**

Date and Time: Tuesday, June 20, 2017, 1:00 PM – 4:00 PM ET

Location: Telephone and audio webcast

Purpose: To discuss the Draft CASAC review of EPA’s *Integrated Science Assessment for Sulfur Oxides – Health Criteria (Second External Review Draft – December 2016)*¹.

Participants: Chartered CASAC
Dr. Ana Diez Roux, Chair (for full CASAC, see Chartered CASAC roster²)
Dr. Judith Chow
Dr. Ivan Fernandez
Dr. Jack Harkema
Dr. Donna Kenski
Dr. Elizabeth A. (Lianne) Sheppard

CASAC Sulfur Oxides Panel (for full Panel, see Panel roster³)

Dr. Ana Diez Roux, Chair
Mr. George Allen
Dr. John Balmes
Dr. James Boylan
Dr. Judith Chow
Dr. Aaron Cohen
Dr. Alison Cullen
Dr. Delbert Eatough
Dr. Steven Hanna
Dr. Jack Harkema
Dr. Farla Kaufman
Dr. Donna Kenski
Dr. Richard Schlesinger
Dr. Elizabeth A. (Lianne) Sheppard
Dr. Frank Speizer

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 Register⁴ 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 Agenda⁵, 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 then turned it over to Dr. Ana Diez Roux, Chair of the CASAC.

Dr. Diez Roux welcomed everyone, gave an overview of the agenda, and then led the discussion of the draft CASAC ISA report.

Discussion of the Draft CASAC ISA Report

Consensus Responses to Charge Questions

For Charge #1, on page 5, line 37, the panel discussed whether the term “particles of sulfur oxides” was correct. They agreed to changing is to “particle phase of sulfur oxides.”

For Charge #2, on page 7, line 4, the panel agreed to adding a recommendation to include appropriate cross-reference to the health effects chapter. There was discussion about lines 8-11 not containing a recommendation. The panel agreed to recommending that negative values within an instruments noise range should not be eliminated. The panel discussed the recommendation on lines 42-43 regarding incorporation of additional parameters into the EPA’s empirical formula. They discussed how critical it was for the current ISA to include the incorporation of these additional parameters into the empirical formula. One member thought that the strength of the recommendation was appropriate – that EPA should incorporate these additional parameters into the empirical formula for this ISA. Other members did not think that incorporation of these parameters would impact the risk assessment and therefore thought that the recommendation could be softened and was not necessary for this ISA. The panel agreed to revise the recommendation to have EPA consider incorporating these additional parameters in the future. On page 8, line 6, the panel agreed to clarifying the recommendation for reporting all twelve 5-minute averages in an hour.

For Charge #3, the panel agreed that the recommendation on page 9, lines 29-32 is more of an overarching comment that would be more appropriate on page 8, line 19. For Charge #4, the panel discussed whether the bulleted key findings of Chapters 4 and 5 needed to be included in the report because they seemed to be repetitive. The panel decided to leave them in the report. For Charge #5, the panel agreed to revising sentence on page 14, lines 27-28 for clarity.

Letter to the Administrator

The panel discussed the need for an overarching recommendation about cross-referencing throughout the document. The panel agreed to adding this recommendation to line 40 on the first page of the letter. The panel agreed to clarify the recommendation regarding leveraging previous work on exposure assessment and exposure modeling in recent ISAs of other criteria pollutants. The panel also agreed to revise the recommendation on lines 25-31 of the second page of the letter (and the corresponding

recommendation in the consensus response) for clarity. For the sentence on lines 38-40, the panel did not think this was a major recommendation that needed to be in the letter and agreed to remove it. The panel agreed to adding a statement on the third page of the letter that the CASAC concurred with the causal determinations for all the other health outcomes.

Mr. Yeow indicated that he received no requests from the public or EPA to provide additional clarifying comments so he turned the meeting back to Dr. Diez Roux for the disposition of the report by the Chartered CASAC.

Disposition of Draft CASAC ISA Report

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

Summary and Action Items

Mr. Yeow indicated that Dr. John Vandenberg, EPA National Center of Environmental Assessment, requested to address the panel. Dr. Vandenberg thanked the panel for their efforts and for their helpful advice and recommendations.

Mr. Yeow indicated that he and Dr. Diez Roux will work to incorporate all the revisions discussed on the teleconference and would send the revised report back to the panel for their final look to ensure that the revisions reflected the discussions from the teleconference.

With business concluded, the meeting was adjourned by Mr. Yeow at 2:40 pm.

Respectfully Submitted:

Certified as Accurate:

/s/

/s/

Mr. Aaron Yeow
Designated Federal Officer

Dr. Ana Diez Roux
Chair
CASAC

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 [June 20, 2017 CASAC and CASAC Sulfur Oxides Panel Meeting page](#):

¹ 05-22-17 Draft CASAC Review of the EPA's Integrated Science Assessment for Sulfur Oxides – Health Criteria (Second External Review Draft)

² Chartered CASAC Roster

³ CASAC Sulfur Oxides Panel Roster

⁴ Federal Register Notice Announcing the Public Meeting

⁵ Agenda

ATTACHMENT A – Other Attendees
CASAC and CASAC Sulfur Oxides Panel Public Teleconference

Name	Affiliation
Bobo, Patricia	Nevada Division of Environmental Protection
Buckley, Barbara	USEPA
Fekete, Gabby	USEPA
Harpring, Brenda	Nevada Division of Environmental Protection
Hemming, Brooke	USEPA
Hines, Erin	USEPA
Jarabek, Annie	USEPA
Jones, Lindsey	Texas Commission on Environmental Quality
Lackey, Leila	USEPA
Lamson , Amy	USEPA
Langworthy, Cindy	Hunton & Williams LLP
Long, Tom	USEPA
Parker, Stuart	IWP News
Price, Doug	Tesoro
Richmond-Bryant , Jennifer	USEPA
Sibblies, Jacqueline	ECC
Steinwand, Christine	Minnesota Pollution Control Agency
Vandenberg, John	USEPA
Woods, Clint	Association of Air Pollution Control Agencies
Yass, Ken	Hydrite