

**U.S. Environmental Protection Agency  
Science Advisory Board  
PFAS Review Panel**

**Summary Minutes for the Public Meeting held on  
May 3, 2022**

**Meeting Participants:**

**SAB PFAS Review Panel Members \***

Dr. Weihsueh Chiu, Chair  
Dr. Sandeep Burman  
Dr. Aimin Chen  
Dr. Deborah Cory-Slechta  
Dr. Jamie C. DeWitt  
Dr. Jeffrey Fisher  
Dr. James K. Hammitt  
Dr. Loren Lipworth

Dr. Lisa Kamendulis  
Dr. David Keiser  
Dr. Lala Ma  
Dr. Sheila Olmstead  
Dr. Gloria Post  
Dr. Kristi Pullen-Fedinick  
Dr. Angela L. Slitt

\*For the full Panel membership see Roster<sup>i</sup>

**Designated Federal Officer**

Dr. Suhair Shallal, Science Advisory Board Staff Office

**Other Attendees**

See Attachment A.

**Meeting Summary:**

**Tuesday May 3, 2022**

**Meeting convened**

The Science Advisory Board (SAB) PFAS Review Panel met during a public video conference on May 3, 2022. Dr. Suhair Shallal, Designated Federal Officer (DFO) for the Panel, convened the meeting at approximately 12:00 p.m. (eastern time) under the Federal Advisory Committee Act (FACA). Dr. Shallal explained the purpose of the meeting was to allow Panel members to discuss and finalize their draft report. She noted that the meeting can be accessed via a call-in-number for those wishing to only listen to the meeting or through a live broadcast on YouTube. The FACA requirements were presented by Dr. Shallal. She mentioned that there is an opportunity for public comment, and that two members of the public had registered to provide oral comments at the time designated on the agenda<sup>ii</sup>.

Dr. Shallal noted that all meeting materials are available on the meeting website. She described the membership of the Panel, stating that Panelists are special government employees (SGE), and they are subject to ethics laws. She then explained that ethics information for all Panelists had been reviewed and it was determined that all Panel members have no conflict of interest or

appearances of a lack of impartiality. Dr. Shallal call the roll and noted that one Panel member, Dr. David Savitz, was not available to participate in today's meeting. Dr. Shallal informed Panel members that if they completed their deliberation today that the May 6, 2022 meeting would be cancelled as noted on the agenda. Finally, she turned the meeting over to Dr. Weihsueh Chiu, Chair of the Panel.

Dr. Chiu reviewed the agenda and asked Panel members to focus the discussion on the substantive changes that they want to suggest for the Panel's draft report<sup>iii</sup>. He said that any minor, editorial or typographical errors can be incorporated without prior approval. He asked if Panel members had any questions before continuing to the first agenda item. There were no questions.

#### Public comments

Dr. Chiu asked Dr. Shallal to call on the public commenters to present their oral comments. Dr. Sean Hays of SciPinion, L.L.C. presented his comments<sup>iv</sup> regarding a panel of immunotoxicologists assembled by SciPinion. Panel members asked about the makeup of the panel and what questions they were asked to answer. Dr. Hays responded that the members were qualified experts in the field of immunotoxicology who were asked to evaluate whether immunotoxicity was a valid endpoint and whether the study selected by EPA was the best available. Dr. Hays also noted that the panel had not yet completed its review. Dr. Vishnu Rajasekharan of the Hach Company had also registered but decided not to present.

#### Panel deliberations

Dr. Chiu then invited Dr. Brittany Jacobs from EPA to provide clarifying comments regarding the *Proposed Approaches to the Derivation of a draft Maximum Contaminant Level Goal for PFOA in Drinking Water* and *Proposed Approaches to the Derivation of a Maximum Contaminant Level Goal for PFOS in Drinking Water*, Section I of the Panel's draft report. She stated that she did not have any clarifying comments about the Panel's report; however, she asked if there were additional substantive changes to the draft report and how they would be incorporated into the Panel's final report. Dr. Shallal explained that changes to the report will reflect the discussions that ensue during today's meeting; furthermore, the Panel cannot make additional substantive changes without discussing those changes publicly. Dr. Jacobs thanked the Panel for their thoughtful and thorough comments and recommendations and stated that EPA is looking forward to receiving the final report to begin revising their documents

As the Panel began discussing Section I, Dr. Chiu, using a copy of the draft report, began inserting the agreed upon changes to the report. The Panel continued discussing the responses for each charge question. Edits focused on modifying sentences that needed more clarification and, in some instances, further supporting evidence was added (e.g., references).

The Panel took a 10-minute break after 2 ½ hours of discussions. After the break, the Panel continued with their deliberations on Charge Question 5d. The Panel completed their discussion of Section I of the draft report suggesting additions, deletions, and modifications to the responses. Dr. Chiu then asked panel members if they had any comments or edits for the MCLG

documents section in the letter to the Administrator. Panel members added two bullets, one suggesting that EPA evaluate mechanism of action when selecting an RfD and the other highlighting that RfDs should apply for both short-term and chronic exposure durations. Dr. Post provided two paragraphs about the use of uncertainty factors when there is insufficient data to develop a cancer slope factor that were added in the response for Question 5d and editorial comments about the MCLG documents<sup>v</sup> that the Panel agreed to include in an Appendix to their draft report.

After completing the discussion of Section I, Dr. Chiu invited Ms. Colleen Flaherty from EPA to provide clarifying comments regarding Section II of the Panel's report, the review of the *draft Framework for Estimating Noncancer Health Risks Associated with Mixtures of PFAS*. Ms. Flaherty did not have any clarifying comments and thanked the Panel members for their advice and recommendations.

Panel members began discussing Section II of their draft report. Dr. Chiu again edited this section using a copy of the report online during the meeting. The Panel completed their discussion of Section II of the draft report suggesting additions, deletions, and modifications to the responses. A few edits were suggested to clarify statements in the draft report and citations were added. Dr. Chiu then asked panel members if they had any comments or edits for the Mixtures document section in the letter to the Administrator. There were none. Before closing out the discussion of Section II, Dr. Post provided editorial comments for the Mixtures document<sup>v</sup> that the Panel agreed to include in an Appendix to their draft report.

Dr. Chiu then invited Ms. Morgan McCabe from EPA to provide clarifying comments regarding the Panel's review of the *draft Analysis of Cardiovascular Disease Risk Reduction as a Result of Reduced PFOA and PFOS Exposure in Drinking Water*. Ms. McCabe noted that she did not have clarifying comments and she thank the Panel for their work.

Panel members began discussing Section III of their draft report. Dr. Chiu again edited this section using a copy of the report online during the meeting. The Panel completed their discussion of Section III of the draft report suggesting additions, deletions, and modifications to the responses. A few edits were suggested to clarify statements in the draft report and paragraphs were moved to improve readability. Dr. Chiu then asked panel members if they had any comments or edits for the CVD document section of the letter to the Administrator. There were none.

### Next Steps

Dr. Chiu asked Dr. Shallal to explain the next steps. First, she informed the Panel and members of the public that the May 6, 2022 meeting would be cancelled since the deliberations and editing of all the sections of the Panel's draft report were completed during today's meeting and no further discussions were needed at this time.

She then discussed next steps and the timeline for the development of a final draft report from the Panel. She requested that members who were asked to send their suggested edits/references/additions to do so by Thursday May 5, 2022 and she would then work with Dr.

Chiu to finalize the report and send it out for concurrence by the end of the following week. She reminded Panel members that only information that was discussed and approved by the Panel can be included.

Meeting adjourned

Dr. Chiu thanked panel members and EPA staff for their contributions to the report and asked the DFO to adjourn the meeting. Dr. Shallal thanked all the participants and adjourned the meeting at approximately 4:45 PM Eastern Time.

**Respectfully Submitted and Certified as Accurate,**

\_\_\_\_\_/s/  
Suhair Shallal, PhD  
DFO

\_\_\_\_\_/s/  
Weihsueh Chiu, PhD  
PFAS Review Panel, Chair

Date: July 6, 2022

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by committee members during the course of deliberations within the meeting. Such ideas, suggestions, and deliberations do not necessarily reflect definitive 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.

**Attachment A: Additional meeting participants in attendance or who requested the teleconference call-in number for the May 3 and May 6, 2022 meetings**

	NAME	AFFILIATION
1.	Eric Burneson	US EPA
2.	Justin Conley	US EPA
3.	Colleen Flaherty	US EPA
4.	Moran McCabe	US EPA
5.	Brittany Jacobs	US EPA
6.	Alex Lan	US EPA
7.	Thomas Brennan	US EPA
8.	Astrika Adams	U.S. Small Business Administration
9.	David Dunlap	HARSCO
10.	Wendy Steffensen	LOTT Clean Water Alliance
11.	Tim Appleman	NASA
12.	Danielle Jones	Chemours
13.	Lawrence Thomas	None
14.	Laura Campbell	Michigan Farm Bureau
15.	Tess Peterson	FTI Consulting
16.	Sadie Wheeler	New York State Department of Health
17.	Courtney Tepera	GAO
18.	Alison Aminto	Philadelphia Water Department
19.	Brian Redder	AMWA
20.	Nicole Cairns	New York State Department of Health
21.	Shannon Garcia	Air Force Civil Engineer Center
22.	Jennifer Corack	Navy
23.	Andrea Candara	New York State Department of Health
24.	Michael Messner	None
25.	Tim Conjelko	Agilent Technologies
26.	Suzanne Fenton	DNTP/NIEHS
27.	Vishnu Rajasekharan	Hach
28.	Richard Jack	Phenomenex Corporation
29.	Anita Meyer	U.S. Army Corps of Engineers
30.	Danielle Kleinmaier	U.S. EPA
31.	Cheryl Soltis-Muth	None
32.	Andrew Pawlisz	Trihydro Corporation
33.	Kendra Chamberlain	None
34.	Lisa Bradley	Haley & Aldrich
35.	Allison Clark	Fitch Ratings
36.	Bill Reck	USDA NRCS
37.	Nicole Shao	U.S. EPA
38.	Tiffany Lee	None
39.	Shaun Malin	HRP Associates, Inc.
40.	Jason Fagel	New York State Department of Environmental Conservation

41.	Ron MacGillivray	Delaware River Basin Commission
42.	Esther Haugabrooks	Coca-Cola Company
43.	Katherine Hanson	Wisconsin Department of Natural Resources
44.	Ai Jia	MWDSC
45.	Peter Goodmann	Louisville Water Company
46.	Dale Tapp	WaterOne
47.	Grant McKercher	IDEM
48.	Stefan Saravia	Minnesota Department of Health
49.	Shelly Walther	Los Angeles County Sanitation Districts
50.	Rebecca Tallon	A.O. Smith Corporation
51.	Anna Truszczynski	Georgia EPD
52.	Lonnie Duke	U.S. Air Force
53.	David Ailor	American Coke and Coal Chemicals Institute
54.	Bikash Bhattarai	A.O. Smith Corporation
55.	Chris Moody	American Water Works Association
56.	Poonam Giri	North Carolina Department of Environmental Quality
57.	Kim Nimmer	North Carolina Department of Environmental Quality
58.	Arzina Bhimji	City of Phoenix
59.	Whitney Durfee	Knoxville Utilities Board
60.	Luis Tovar	None
61.	Barry Marcel	U.S. Air Force School of Aerospace Medicine
62.	John Gardella	CMBG3 Law
63.	Donald Shandy	Crowe & Dunlevy
64.	Nicole Shao	U.S. EPA-ORD
65.	Melanie Arnold	KY Division of Water
66.	Patricia McIsaac	Eurofins
67.	Doug Cox	Sundance Consulting Inc.
68.	Matt Klasen	U.S. EPA
69.	Lindsay Holden	ODASD(E&ER)
70.	Jordan B Kari	Water Quality Association
71.	Sarah Hughes	ECOS
72.	Gregory Garvey	GSI Environmental
73.	Shan Niu	University of Pittsburgh
74.	Kelsey Barton	CDPHE
75.	Wenhai Xu	Tenneco
76.	Mary Ellen Hogan	Tenneco
77.	Ankur Singhal	EH&E
78.	Rachel Gonsenhauser	U.S. EPA
79.	George Gardenier	U.S. EPA
80.	James Kountzman	Cherokee Nation Strategic Programs
81.	Lisa Wilson-Davis	City of Boca Raton
82.	Alyssa Woodworth	NYSDOH
83.	Jordan B Kari	Water Quality Association
84.	Helen Goeden	MN Dept of Health
85.	Jonathan D Gledhill	Policy Navigation Group

86.	Al Lear	IBWA
87.	Elena Humphreys	Library of Congress
88.	Matt Klasen	U.S. EPA
89.	Josh Greene	A. O. Smith
90.	Cheryl Fields	Connecticut Dept of Public Health
91.	Anthony Ascolese	None
92.	Morgan Willming	Integral Consulting
93.	Clay Detlefsen	National Milk Producers Federation
94.	Deborah Morefield	Policy Navigation Group
95.		

## Materials Cited:

The following meeting materials are available on the SAB website (<http://www.epa.gov/sab>) at the page for the May 3, 2022 meeting.

[https://sab.epa.gov/ords/sab/f?p=114:19:21002516354144:::RP,19:P19\\_ID:970](https://sab.epa.gov/ords/sab/f?p=114:19:21002516354144:::RP,19:P19_ID:970)

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<sup>i</sup> Roster

<sup>ii</sup> Agenda

<sup>iii</sup> Panel's draft report - Review of EPA's Analyses to support EPA's National Primary Drinking Water Rulemaking for PFAS (PDF)

<sup>iv</sup> Comments presented by Dr. Sean Hays of SciPinion, L.L.C.

<sup>v</sup> Comments from Dr. Gloria Post on the SAB PFAS Review draft report