

**AGENDA**  
**EPA SCIENCE ADVISORY BOARD**  
**PFAS REVIEW PANEL**  
**PUBLIC MEETINGS**  
**December 16, 2021, January 4 and 6, 2022**  
**from 12:00 NOON TO 5:00 PM (eastern time) and**  
**January 7, 2022 from 11:00 AM to 4:00 PM (eastern time)**

**THURSDAY, December 16, 2021**

**Topic:** *SAB per- and polyfluoroalkyl substances Review Panel (PFAS Review Panel) will review EPA's Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanoic Acid (PFOA) in Drinking Water; Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanesulfonic Acid (PFOS) in Drinking Water; EPA's Analysis of Cardiovascular Disease Risk Reduction as a Result of Reduced PFOA and PFOS Exposure in Drinking Water; and EPA's Draft Framework for Estimating Noncancer Health Risks Associated with Mixtures of PFAS.*

**Please note that all times are approximate (see note at end of agenda).**

- 12:00 NOON**     **Meeting Opening and Administrative Procedures –**  
Dr. Sue Shallal, Designated Federal Official, SAB RFT Review Panel
- 12:10 PM**       **Welcome**  
Mr. Thomas Brennan, Director, SAB Staff Office
- 12:15 PM**       **Introduction of Panel Members –**  
Dr. Weihsueh Chiu, Chair of the SAB PFAS Review Panel
- 12:25 PM**       **Agenda Review –**  
Dr. Weihsueh Chiu, Chair of the SAB PFAS Review Panel
- 12:30 PM**       **EPA Opening Remarks –**  
Mr. Eric Burneson, Division Director, EPA office of Water, OGWDW
- 12:45 PM**       **Overview of EPA's *Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanoic Acid in Drinking Water and Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanesulfonic Acid in Drinking Water* and Discussion of Charge Questions:**  
Dr. Brittany Jacobs, Biologist, EPA Office of Water, OST
- 1:30 PM**        **Clarifying Questions-**  
PFAS Review Panel members

- 1:45 PM**      **Overview of EPA’s *Draft Framework for Estimating Noncancer Health Risks Associated with Mixtures of PFAS* and Discussion of Charge Questions**  
Ms. Colleen Flaherty, Biologist, EPA Office of Water, OST  
Dr. Justin Conley, Toxicologist, EPA Office of Research and Development
- 2:30 PM**      **Clarifying Questions-**  
PFAS Review Panel members
- 2:45 PM**      **BREAK**
- 3:00 PM**      **Overview of EPA’s *Analysis of Cardiovascular Disease Risk Reduction as a Result of Reduced PFOA and PFOS Exposure in Drinking Water* and Discussion of Charge Questions**  
Ms. Morgan McCabe, Physical Scientist, EPA Office of Water, OGWDW
- 3:45 PM**      **Clarifying Questions-**  
PFAS Review Panel members
- 4:00 PM**      **PUBLIC COMMENTS**  
Registered Speakers
- 4:45 PM**      **Next Steps**  
Dr. Weihsueh Chiu, Chair of the SAB PFAS Review Panel
- 5:00 PM**      **Recess**  
Dr. Sue Shallal, Designated Federal Official

**Tuesday January 4, 2022**

**Topic:** Peer Review of EPA’s *Draft Framework for Estimating Noncancer Health Risks Associated with Mixtures of PFAS*

**Please note that all times are approximate (see note at end of agenda). Names of lead discussants are underlined and in bold font.**

- 12:00 NOON**      **Meeting Opening and Administrative Procedures –**  
Dr. Sue Shallal, Designated Federal Official, SAB PFAS Review Panel
- 12:10 PM**      **Review Agenda**  
Dr. Weihsueh Chiu, Chair of the SAB PFAS Review Panel

- 12:15 PM**      **Highlights of EPA’s *Draft Framework for Estimating Noncancer Health Risks Associated with Mixtures of PFAS***  
Ms. Colleen Flaherty, EPA Office of Water, and Dr. Justin Conley, Office of Research and Development
- 12:25 PM**      **Charge Question #1-** Cory-Slechta, Kamendulis, **Post** and Slitt
- A. Please comment on the appropriateness of EPA’s approach for a component-based mixture evaluation of PFAS under an assumption of dose additivity.
  - B. If common toxicity endpoint/health effect is not considered an optimal similarity domain for those PFAS with limited or no available MOA-type data, please provide specific alternative methodologies for integrating such chemicals into a component-based mixture evaluation(s).
- 1:25 PM**      **Charge Question #2-** Burman, **Fisher**, Kamendulis and Pullen-Fedinick
- A. Please provide specific feedback on whether the HI approach is a reasonable methodology for indicating potential risk associated with mixtures of PFAS. If not, please provide an alternative.
  - B. Please provide specific feedback on whether the proposed HI methodologies in the framework are scientifically supported for PFAS mixture risk assessment.
- 2:25 PM**      **BREAK**
- 2:40 PM**      **Charge Question #3-** Burman, DeWitt, Fisher, and **Slitt**
- A. Please provide specific feedback on whether the RPF approach is a reasonable methodology for estimating risk associated with mixtures of PFAS. If not, please provide an alternative.
  - B. Please provide specific feedback on whether the proposed RPF methodology in the framework is scientifically supported for PFAS mixture risk assessment.
- 3:40 PM**      **Charge Question #4- Cory-Slechta, DeWitt, Post, and Pullen-Fedinick**
- A. Please provide specific feedback on whether the Mixture BMD approach is a reasonable methodology for estimating what is in essence a mixture-based point-of-departure. If not, please provide an alternative.
  - B. Please provide specific feedback on whether the proposed Mixture BMD methodology in the framework is scientifically supported for PFAS mixture risk assessment.
- 4:40 PM**      **Clarifying Comments**  
EPA representatives and Members of the Public
- 5:00 PM**      **Recess –**  
Dr. Sue Shallal, Designated Federal Official

As noted above, please be advised that agenda times are approximate; when the discussion of one topic/charge question is completed, discussions for the next topic/charge question will begin.

**Thursday January 6, 2022**

**Topic:** Peer Review of EPA's *Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanoic Acid in Drinking Water* and *Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanesulfonic Acid in Drinking Water*

**Please note that all times are approximate (see note at end of agenda). Names of lead discussants are underlined and in bold font.**

- 12:00 NOON**    **Meeting Opening and Administrative Procedures –**  
Dr. Sue Shallal, Designated Federal Official, SAB PFAS Review Panel
- 12:05 PM**        **Review Agenda**  
Dr. Weihsueh Chiu, Chair of the SAB PFAS Review Panel
- 12:10 PM**        **Highlights of EPA's *Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanoic Acid in Drinking Water* and *Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanesulfonic Acid in Drinking Water***  
Dr. Brittany Jacobs, EPA Office of Water
- 12:20 PM**        **Topic #1- Study Identification and Inclusion**  
Charge Questions #1            Chen, Post and **Pullen-Fedinick**
- 12:40 PM**        **Topic 2- Noncancer Hazard Identification**  
Charge Questions #1            DeWitt, **Post**, and Savitz  
Charge Questions #2            Burman, Kamendulis and **Slitt**  
Charge Questions #3            Burman, **Cory-Slechta** and Kamendulis
- 1:40 PM**         **Topic 3- Cancer**  
Charge Questions #1            DeWitt, Post and **Lipworth**  
Charge Questions #2            Fisher, Lipworth, **Kamendulis**
- 2:10 PM**         **BREAK**
- 2:20 PM**         **Topic 4- Toxicokinetic Models**  
Charge Questions #1            **Chiu**, Cory-Slechta, and Fisher  
Charge Questions #2            **Fisher** and Slitt
- 3:20 PM**         **Topic 5- Epidemiological Study RfD Derivation**  
Charge Questions #1            Lipworth, **Savitz**, and Slitt  
Charge Questions #2            **DeWitt**, Pullen-Fedinick, and Savitz

**Charge Questions #3**  
**Charge Questions #4**

**Chen**, DeWitt, and Slitt  
Cory-Slechta, Post, and **Pullen-Fedinick**

- 4:10 PM**      **Topic 6- Relative Source Contribution**  
                 **Charge Question #1**      **Burman**, Chen and Post
- 4:50 PM**      **Clarifying Comments**  
                 EPA representatives and Members of the Public
- 5:00 PM**      **Recess –**  
                 Dr. Sue Shallal, Designated Federal Official

As noted above, please be advised that agenda times are approximate; when the discussion of one topic/charge question is completed, discussions for the next topic/charge question will begin.

**Friday January 7, 2022**

**Topic:** Peer Review of EPA's *Analysis of Cardiovascular Disease Risk Reduction as a Result of Reduced PFOA and PFOS Exposure in Drinking Water*

**Please note that all times are approximate (see note at end of agenda). Names of lead discussants are underlined and in bold font.**

- 11:00 AM**      **Meeting Opening and Administrative Procedures –**  
                 Dr. Sue Shallal, Designated Federal Official, SAB PFAS Review Panel
- 11:10 AM**      **Review Agenda**  
                 Dr. Weihsueh Chiu, Chair of the SAB PFAS Review Panel
- 11:15: AM**      **Recap and Complete deliberations from previous meeting**  
                 PFAS Review Panel members
- 11:45 AM**      **Highlights of EPA's *Analysis of Cardiovascular Disease Risk Reduction as a Result of Reduced PFOA and PFOS Exposure in Drinking Water***  
                 Ms. Morgan McCabe, EPA Office of Water
- 11:55 AM**      **Charge Question #1- Boyle, Chen, Lipworth and Savitz**  
                 A. Please provide specific feedback on the extent to which the study selection criteria, the identified studies, and the methodological approach of the meta-analysis are complete and capture up to date scientific literature.

- B. To inform the CVD risk reduction analysis for those ages 40-89 using the ASCVD risk model, EPA used a meta-analysis approach for the total cholesterol dose-response function. Please provide specific feedback on the extent to which this approach is reasonable for this application, or whether using a single dose-response study (e.g. Dong et al., 2019) selected in the analysis of cholesterol impacts in the *Proposed Approaches for Deriving Maximum Contaminant Level Goals for PFOA and PFOS in Drinking Water* would add additional strengths for the CVD risk reduction application.

**12:55 PM      BREAK**

**1:10 PM      Charge Question #2-** Hammitt, Keiser, **Ma** and Savitz

- A. Please comment on the extent to which this analysis is scientifically supported and clearly described. To the extent improvements are suggested, please provide specific changes that are implementable in a U.S. national-level benefits analysis with readily available data.

**2:00 PM      Charge Question #3-** Boyle, **Hammitt**, Lipworth and Olmstead

- A. Please comment on the scientific validity of the ASCVD model application for estimating the probability of first time CVD events in various sub-populations and the extent to which it is clearly described.
- B. Please comment on whether EPA's approach and assumption, of a uniform first CVD event hazard distribution over the 10-year period, is sufficiently robust given current data sources and literature. If additional distributional sources of information are suggested, please provide specific citations/sources for EPA's consideration.
- C. Please comment on the scientific validity of using the ASCVD risk model for estimating reduced CVD risk stemming from changes in total cholesterol in response to reducing exposure to PFOA and PFOS in drinking water.

**3:00 PM      Charge Question #4-** Chen, Keiser, Ma, and **Olmstead**

- A. Has EPA clearly described the individual contributions of the sources of uncertainty?

**3:45 PM      Clarifying Comments**

EPA representatives and Members of the Public

**4:00 PM      Adjourn –**

Dr. Sue Shallal, Designated Federal Official

As noted above, please be advised that agenda times are approximate; when the discussion of one topic/charge question is completed, discussions for the next topic/charge question will begin. Please contact the Designated Federal Official for information regarding this meeting, Dr. Sue Shallal, via email: [shallal.suhair@epa.gov](mailto:shallal.suhair@epa.gov)