

U.S. Environmental Protection Agency (EPA) Board of Scientific Counselors (BOSC)

**Chemical Safety for Sustainability (CSS) and
Human Health Risk Assessment (HHRA) Subcommittee**

Teleconference Meeting Summary

May 10, 2019

Dates and Times: May 10, 2019, 2:00 p.m. to 3:00 p.m. Eastern Time

Location: Teleconference

Executive Summary

On May 10, 2019, the EPA BOSC CSS/HHRA subcommittee convened via teleconference to finalize the CSS subcommittee report and HHRA program feedback. CSS and HHRA program staff members, including the CSS and HHRA national program directors, were available during the teleconference to address questions regarding CSS Strategic Research Action Plan (StRAP) content and specific areas of input from the BOSC. The meeting format consisted of open dialogue, subcommittee questions, and EPA responses to their questions.

Mr. Tom Tracy, Designated Federal Official (DFO) for the BOSC CSS/HHRA subcommittee, opened the teleconference and introduced BOSC subcommittee members, EPA staff, and three public attendees: Amandine Muskus from Kia Motors, Stephanie Schlea from the Association of Metropolitan Water Agencies, and Kristie Sullivan from the Physicians Committee for Responsible Medicine. Dr. Katrina Waters welcomed the subcommittee members and noted that she and Dr. Gina Solomon had removed redundancies and polished the draft subcommittee reports.

Subcommittee Discussion of Chemical Safety for Sustainability Subcommittee Report

Dr. Solomon stated that the drafts were not as polished as she had hoped. She hoped to determine whether anything was missing and ensure that nothing was accidentally eliminated. The subcommittee needed to add introductory and conclusory text to capture the overarching points.

Dr. Waters agreed and proposed that the subcommittee review the CSS subcommittee report by each charge question with members raising concerns as they arose.

Charge Question 1a - Does the research outlined for the 2019–2022 timeframe support the relevant Agency priorities as described in the EPA and ORD strategic plans?

Subcommittee members discussed the first bulleted suggestion. Dr. Jennifer McPartland said that the suggestion could be more explicit about the ways various CSS program activities and research areas would serve specific activities in the regions and program offices. Dr. Waters proposed removing the suggestion altogether, while Dr. McPartland and Dr. Mark Wiesner suggested moving it to Charge Question 1b. Dr. Daland Juberg disagreed with removing the suggestion or moving it to Charge Question 1b, as Charge Question 1b focused more on outreach and partners. The subcommittee decided to include the suggestion as a strength and emphasize that it is important to tie research to problem formulation.

Next, subcommittee members discussed the narrative text, specifically the need to include strengths in the narrative. Dr. Solomon explained that Dr. Juan Colberg added the last paragraph of the narrative after the face-to-face meeting. She tried to clarify his text about the importance of early life-cycle analytics and sustainable chemistry. Dr. Colberg noted that the CSS StRAP highlighted how the CSS program is moving away from sustainable chemistry and thought the narrative should do more to emphasize its importance. Dr. Clifford Weisel voiced concern that the emphasis might make the narrative section sound negative. The subcommittee discussed whether the purpose of the narrative section was to provide background information for the recommendations; focus on facts with no background information; summarize strengths and concerns to create a neutral tone; or explain differences from previous StRAPs. The Charge Question 1a workgroup agreed to revise their narrative according to the subcommittee's discussion.

When asked for any additional comments, Dr. Jane Rose proposed making the suggestions more specific and actionable. Others agreed, and Dr. Waters concluded the discussion of Charge Question 1a.

Charge Question 1b - Each ORD research program undertook a rigorous engagement process to provide additional detail on specific EPA program and region, state, and tribal needs, the results of which are summarized in the StRAP objectives and explanations of research topics and areas. How well does the proposed research program respond to these partner-identified needs?

Subcommittee members discussed the reorganization and length of the response to Charge Question 1b. Dr. Donna Vorhees liked the reorganization and noted that the narrative section set up an understanding of the suggestions and recommendations. Dr. Juberg noted that the response was longer than the others and should be shortened for consistency. Dr. McPartland also liked the new content added from other charge questions, which made the section longer. She suggested that Dr. Waters and Dr. Solomon shorten the response.

Dr. McPartland commented that the last bulleted suggestion did not include affected public communities in the stakeholder community. Dr. Juleen Lam suggested a revision to which Dr. McPartland agreed and said that the workgroup could elaborate on the stakeholder definition.

Dr. Johnson asked what "future StRAP" referenced in Recommendation 1b.1, since the subcommittee was only charged to comment on the current CSS StRAP. Dr. Vorhees responded that her workgroup felt the program should address the recommendation in the current and future StRAPs because of the level of detail provided. Dr. Weisel suggested making Recommendation 1b.1 last, and Drs. Juberg and Vorhees agreed.

Charge Question 1c - Does the StRAP, including the topics, research areas, and proposed outputs, clearly describe the strategic vision of the program? Given the environmental problems and research objectives articulated, please comment on the extent to which the StRAP provides a coherent structure toward making progress on these objectives in the 2019–2022 time frame.

Dr. Solomon provided an overview of the response to Charge Question 1c. She asked if the workgroup's response sufficiently captured the key strengths. Dr. McPartland noted that the

response only has two recommendations, but alludes to three. Dr. Solomon said that the third recommendation initially included was removed because the workgroup decided that other recommendations covered it. She agreed with Dr. Waters, who noted that that recommendation became Recommendation 1b.5. The subcommittee decided to leave Recommendation 1b.5 under Charge Question 1b.

Dr. McPartland raised the sixth bulleted suggestion, specifically asking to clarify the term “assay model.” She noted that the suggestion would benefit from more nuanced description, with specific emphasis on the concepts of tipping point and population variability. Dr. Dale Johnson responded that he spoke with poster presenters about uncertainty and they said that if one takes the different models and creates a quantitative AOP for the model itself, it sets up the key events with a different level of evidence and reduces model uncertainty. Dr. Johnson confirmed that the “model” would become an outcome and clarified that “assays” refers to the assay itself, but also the virtual tissue models. He said he would reconstruct that sentences in the sixth bulleted suggestion.

Charge Question 1d - Recognizing ORD’s focus on addressing identified partner research needs, in the presence of reduced scientific staff and resources, are there any other critical emerging environmental needs or fields of expertise and/or new research methods where this program should consider investing resources?

Dr. Colberg suggested highlighting parts of the CSS StRAP in the response narrative, so the tone appeared less negative. Dr. Johnson noted that Recommendation 1d.2 relates to multiple charge question responses. Dr. Rose and Dr. Colberg agreed that the phrase “IT support” in Recommendation 1d.2 should be more descriptive.

Subcommittee members then discussed the feasibility and placement of Recommendation 1d.1 regarding mixtures. Dr. Juberg questioned if Recommendation 1d.1 is feasible given that biomonitoring studies typically isolate single metabolites. Dr. McPartland said that high-resolution metabolomics can identify mixtures, and Dr. Johnson added that one can see different components from a mixture standpoint. Dr. Solomon suggested replacing the text of Recommendation 1d.1 with the text in Recommendation 1a.2 because of its better wording for mixtures. Dr. Weisel said that the mixture issue fits well under Charge Question 1a because it was in previous CSS StRAPs and has been an ongoing issue for decades. Dr. Colberg agreed that the recommendation should stay under Charge Question 1a. Dr. Solomon clarified that, since Charge Question 1a does not mention chemical mixtures, the subcommittee would have to explain why testing for mixtures is relevant to the current EPA and ORD Strategic Plans. Drs. McPartland, Juberg, Johnson, and Waters all agreed that redundancy regarding mixtures is acceptable given the importance of the issue. The subcommittee agreed to include mixture text multiple times and provide context regarding what is doable and what the CSS program should include in its StRAP.

Dr. McPartland thought the seventh bulleted suggestion was overly prescriptive. Dr. Solomon said that Dr. Becker sent the bullet after the face-to-face meeting. She wanted to make sure the whole subcommittee was comfortable with all suggestions. Dr. Waters asked the Charge

Question 1d workgroup to review the bullets, clarify them, and remove any suggestions with which the whole subcommittee did not agree.

Charge Question 1e - What are some specific ideas for innovation (including prizes/challenges) and market-based approaches that the program could use to advance solutions to existing and emerging environmental problems?

Mr. Timothy Malloy noted that the subcommittee made several changes since the in-person meeting, including moving bullets to more appropriate charge questions, and other stylistic changes. There were no other comments regarding this charge question.

Conclusions

The combined responses from each workgroup's follow-up recommendations from the teleconference will be compiled into the draft BOSC CSS StRAP review and HHRA feedback reports. The BOSC EC will convene in June 2019 to review and consider the subcommittees' recommendations and finalize the overall BOSC report, which will include reviews of each of ORD's research programs.

Meeting Charge Questions and Draft Documents

The [draft charge](https://www.epa.gov/bosc/chemical-safety-sustainability-subcommittee-meeting-documents-april-10-12-2019)¹ can be accessed at <https://www.epa.gov/bosc/chemical-safety-sustainability-subcommittee-meeting-documents-april-10-12-2019>.

The draft CSS subcommittee report and HHRA feedback document can be accessed at <https://www.epa.gov/bosc/bosc-executive-committee-meeting-june-27-28-2019>.

Meeting Participants

BOSC Chemical Safety for Sustainability/Human Health Risk Assessment Subcommittee Members:

Katrina Waters, *Chair*
James Stevens, *Vice Chair**
Gina Solomon, *Temporary Vice Chair*
Anthony Bahinski*
Richard Becker*
Juan Colberg
Richard Di Giulio*
Chris Gennings*
Dale Johnson
Daland Juberg
Juleen Lam
Timothy Malloy
Jennifer McPartland
Jane Rose
Ponisseril Somasundaran*
Donna Vorhees
Clifford Weisel
Mark Wiesner

**did not attend*

EPA Designated Federal Official (DFO): Tom Tracy, *Office of Research and Development*

Other EPA Attendees:

Tina Bahadori, *National Program Director, Human Health Risk Assessment Research Program*
Carole Braverman, *U.S. EPA Region 5*
Amanda Fitzmorris, *Confidential Assistant, Office of Research and Development*
Jeff Frithsen, *National Program Director, Chemical Safety for Sustainability Research Program*
Joe Tietge, *Deputy National Program Director, Chemical Safety for Sustainability Research Program*

¹ https://www.epa.gov/sites/production/files/2018-12/documents/strap_charge_to_bosc.pdf

Public Attendees:

Amandine Muskus, *Kia Motors*

Stephanie Schlea, *Association of Metropolitan Water Agencies*

Kristie Sullivan, *Physicians Committee for Responsible Medicine*

Contractor Support (ICF):

Sophie Hearn