

## **BOSC REVIEW OF ORD RESEARCH PROGRAMS**

### **Charge Questions BoSC Subcommittee**

#### **Background**

In July 2014, the BOSC Executive Committee (EC) joined the Science Advisory Board in its role as advisors to the EPA Administrator on strategic research directions. In shorthand, the SAB advisory role has been to provide input on “what science should we be doing?” To arrive at their recommendations, the SAB and BOSC EC reviewed preliminary drafts of ORD’s Strategic Research Action Plans (StRAPs), and received briefings and additional background materials from ORD’s Deputy Assistant Administrator for Science and its National Program Directors for the six research programs. The SAB and BOSC EC then held a two day meeting in July, 2014 with ORD officials to discuss the materials and develop recommendations, culminating in a report to the EPA Administrator in January 2015 on research directions for 2016-2019.

The role of the BOSC is to advise the ORD Assistant Administrator at an operational level, which in shorthand would be “are we doing the science right?” The BOSC EC will address cross cutting issues of interest to ORD broadly. Five new sub-committees have been established to provide targeted advice to ORDs research programs on accomplishing the objectives and high quality research articulated in the six StRAPs. The general charge questions below are designed to address some of the front-end research processes ORD undertakes, fully understanding that there are many equally important issues that will have to be addressed through additional BOSC subcommittee efforts over the coming years.

\*\*\*\*\*

#### **CSS and HHRA General Charge Questions**

1. The StRAPs are designed to clearly convey the vision and objectives of the research program, and to describe, at a high level, the research topics, and major outputs planned for 2016-2019. Upon receiving recommendations from the SAB and the BOSC EC, as well as from EPA partners and others, ORD has further developed the StRAPs, including refining the objectives and topics, and providing more clarity. At an operational level, each research program is aiming to accomplish its objectives through research spanning physical, biological and social sciences and through numerous ORD laboratories, centers, and STAR grantees all across the country. In

addition, ORD has heeded the advice of the SAB and BOSC in past years to do more to integrate research across the six programs, across EPA and with other Federal partners. Given these complexities, we recognize there are likely several reasonable approaches for organizing the research to best accomplish the objectives.

Based on the revised StRAP, ORD briefings, and additional materials provided to the subcommittee:

**General Charge Question 1. Given the research objectives articulated in the StRAP, are the topics and project areas planned and organized appropriately to make good progress on these objectives in the 2016-2019 time frame?**

---

2. ORD works with EPA partners to design the research programs to meet Agency priorities. The first step in this process is problem formulation which provides the foundation of the research. Although it can be tempting to jump to a list of research priorities, problems that are well defined lead to the most effective research efforts and solutions. The problem formulation stage of research planning lays the groundwork for the StRAPs and is the reference point for any changes in priorities as budgets change and new issues emerge. Problem formulation occurs at many different levels including the articulation of issues in the EPA Strategic plan; meetings with EPA partners including regular staff-to-staff meetings; workshops and conferences where states, regions, policy and science staff describe the problems they face; and discussions among senior managers at EPA. In addition, each National Program Director reaches out to EPA partners in a variety of targeted ways to agree on problem definition. Based on the approaches described by program staff:

**General Charge Question 2. How effective are the approaches for involving the EPA partners in the problem formulation stage of research planning?**

---

3. ORD places a very high value on working closely with EPA partners to design the research programs to meet Agency priorities. During the preparation of the StRAPs, the programs were guided by the EPA Strategic Plan and undertook a variety of activities to actively engage partners, both to understand their priorities and to elicit their input on research directions. These include many regular meetings with EPA policy and regional staff, communities of practice for specific scientific disciplines throughout the Agency, annual two day meetings led by the NPDs, annual senior level meetings with EPA Assistant and Regional Administrators, and formal requests from ORD's DAA for science to receive comments from across the Agency twice during the year of StRAP development.

In addition to the up-front work with EPA partners to understand their research needs for the upcoming year(s), ORD also needs to be flexible enough to address top priority, unanticipated needs or environmental crises that emerge at any given time. The research program will describe interactions with EPA partners, present examples of recent responsiveness to unexpected events, and explain how they work with EPA partners to accommodate acute needs while resources are limited. Based on the evidence provided by program staff:

**General Charge Question 3. How well does the program respond to the needs of EPA partners (program office and regional).**

\*\*\*\*\*

**CSS and HHRA Subcommittee Specific Charge Questions**

CSS-Specific Questions

EPA's Chemical Safety for Sustainability Research Program (CSS) is leading the development of innovative science to support safe, sustainable selection, design, and use of chemicals and materials required to promote ecological wellbeing, including human and environmental health, as well as to protect vulnerable species, lifestages, and populations. The ultimate goal is to enable the Agency to address impacts of existing chemicals, anticipate impacts of new chemicals and materials, and evaluate complex interactions of chemical and biological systems to support Agency decisions.

Working in conjunction with our partners in the EPA regulatory programs and regions, we have identified priority needs for information and methods to make better-informed, more-timely decisions about chemicals. CSS science is strategically scoped within three integrated Research Topics to support Agency priorities.

**CSS Charge Question 4. Please provide input on the scope and implementation for 2016-19 in the following topic areas:**

- a. **Complex Systems Science**
- b. **Lifecycle Analytics**
- c. **Chemical Evaluation**

CSS is committed to lead the translation and delivery of key research results to our partners through promoting web-based tools, data, and applications to support chemical safety evaluations and related decisions, respond to short-term high priority science needs for CSS partners, and allow for active and strategic engagement of the stakeholder community.

**CSS Charge Question 5. Please provide input on opportunities and approaches for fit-for-purpose translation and knowledge delivery.**

HHRA-Specific Questions

Note: the SAB/BOSC review of this national research program was restricted to its research areas and not its risk assessment products as these are given guidance by other review committees such as the SAB Clean Air Scientific Advisory Committee (CASAC) and the Chemical Assessment Advisory Committee (CAAC).

The HHRA program advances the scientific basis for risk assessment including development of contemporary hazard identification, dose-response assessment and cumulative risk methods, and through application of innovative computational methods and characterization of new data (such as the data developed through the CSS program).

**HHRA Charge Question 6. Please comment on the research dimensions of the HHRA program and, in particular, the proposed approaches for characterization of new data and computational methods to improve confidence and build capacity for their application in the context of risk assessment.**