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BOARD OF SCIENTIFIC COUNSELORS

SCIENCE AND TECHNOLOGY FOR SUSTAINABILITY MID-CYCLE SUBCOMMITTEE

Conference Call Summary
Thursday, February 12, 2009
8:00 – 10:00 p.m. Eastern Time

Welcome

Dr. John Giesy, University of Saskatchewan, Subcommittee Chair

Dr. John Giesy, Chair of the Board of Scientific Counselors (BOSC) Science and Technology for Sustainability (STS) Mid-Cycle Subcommittee, welcomed the Subcommittee members to the teleconference and took roll. A list of participants and the agenda are attached to this summary.

Administrative Procedures

Mr. Greg Susanke, U.S. Environmental Protection Agency (EPA)/Office of Research and Development (ORD), Subcommittee Designated Federal Officer (DFO)

Mr. Greg Susanke, Subcommittee DFO, thanked the Subcommittee members for their attendance and reviewed the Federal Advisory Committee Act (FACA) procedures that are required for all BOSC Subcommittee meetings. As the DFO, Mr. Susanke ensures that all FACA requirements are met and that records of board deliberations are made public. A summary of the meeting will be prepared by a contractor, The Scientific Consulting Group, and following review of the summary by the Subcommittee members and certification by the Chair, it will be available on the BOSC Web Site (www.epa.gov/bosc). Notice of all public meetings of the Subcommittee must be published in the *Federal Register* at least 15 days prior to the meeting; the notice for this teleconference was published on January 27, 2009, and an electronic public docket for the call was established on the Federal Docket Management System (FDMS), which can be accessed at <http://www.regulations.gov>. All meetings and teleconferences involving substantive issues, whether in person, by phone, or by e-mail, that include one-half or more of the Subcommittee members must be open to the public. The Subcommittee Chair and DFO must be present at all teleconferences and face-to-face meetings. Regarding financial conflict of interest, Mr. Susanke worked with officials to ensure that all ethics requirements were met satisfactorily. He asked that Subcommittee members who discover a potential conflict of interest notify him immediately. Although there were no advance requests from the public for comment, an opportunity for public comment will be provided at 9:35 p.m.

Overview of Charge/Rating Program Performance

Dr. John Giesy, Subcommittee Chair, and Mr. Phillip Juengst, EPA/ORD/Office of Resources Management Administration (ORMA)

Dr. Giesy explained that the Subcommittee members will be receiving a great deal of information from the materials and presentations; he stressed the importance of reading and understanding all of the information. If additional information is needed, Subcommittee members should contact Dr. Giesy with their requests. He will work with Mr. Susanke to obtain the information from EPA.

The draft charge describes what the Subcommittee must accomplish during this review. Commenting on EPA's budget is not the focus of this Subcommittee's review. The expertise and experience of the Subcommittee members will help them advise the Agency regarding its response to the last BOSC program review; comments regarding improvements or shifts in priorities are encouraged. Dr. Giesy explained that the STS Program received a full BOSC program review in April 2007. At that time, the Program was undergoing many changes and developing future plans, so some aspects of the Program could not be reviewed. The current review will examine the Multi-Year Plan (MYP) and ORD's response to the 2007 program review. The Subcommittee will assess the Program's past, present, and future. The charge questions are provided in Section 3.0 of the draft charge. The Subcommittee's report will provide answers to the six charge questions found in this section.

Dr. Giesy provided a brief summary of each charge question. The first charge question deals with ORD's response to the 2007 program review. Subcommittee members should read the previous review report and ORD's response and come to the meeting prepared to evaluate how ORD has responded. The second charge question deals with the rationale for the Program, the third question with additional metrics, and the fourth with output. The fifth question examines whether the Program's focus on biofuels is appropriate, and several Subcommittee members were selected specifically because of their expertise in this area. He encouraged the Subcommittee members to provide as much perspective as possible, ensuring them that the Agency will appreciate such guidance. The sixth charge question deals with identifying areas of national significance. The Subcommittee will identify possible areas so that ORD can benefit from the expertise and advice for future planning.

Section 4.0 of the draft charge explains that the Subcommittee must provide an overall summary assessment rating. This rating helps ORD respond to the Office of Management and Budget (OMB) review process and it is explained in an appendix of the BOSC handbook, which was distributed to each Subcommittee member.

Dr. Giesy provided some background for each of the four ratings: Exceptional, Exceeds Expectations, Meets Expectations, and Not Satisfactory. Although the Meets Expectations rating appears somewhat negative, it is not; it means that the Program is doing what is expected. Specific justifications are needed when assigning a rating other than Meets Expectations, so if a Subcommittee member thinks that one of these other ratings is appropriate, the member should be prepared to provide specific examples that justify the rating.

Subcommittee members should forward any questions to Dr. Giesy. Dr. Giesy will work with Mr. Susanke to provide the answer to the entire Subcommittee. As discussion time during the face-to-face meeting is limited, Dr. Giesy is working with Mr. Susanke to increase the time for Subcommittee deliberations. Members should plan to attend the entire meeting. A follow-up teleconference will be scheduled after the face-to-face meeting, but most deliberations should occur at that meeting. Dr. Giesy agreed to take responsibility for preparing a draft report using notes from the face-to-face meeting. The report will be forwarded through Mr. Susanke to the Subcommittee members for their comments. Once the Subcommittee members have finalized the report, the contractor will conduct a final edit, and the report will be submitted to the BOSC Executive Committee. It may be necessary for the Subcommittee to revise the report following the Executive Committee review. Substantive changes will be handled by the complete Subcommittee; editorial comments will be addressed by Dr. Giesy. Once the Executive Committee approves the report, it will be forwarded to ORD.

Mr. Phillip Juengst explained that the Office of Resources Management and Administration (ORMA) is leading ORD's accountability efforts. ORD's research programs have a variety of measures in place to comply with the Government Performance and Results Act of 1993 and OMB's Program Assessment Rating Tool (PART) reviews. Mr. Juengst mentioned that the new administration may alter or discontinue the PART reviews. ORD outcomes and outputs are measured through the BOSC review, which rates each program's performance, quality, relevance, and impact on a 4- to 5-year cycle. The STS

Research Program underwent a full program review 2 years ago. Instead of assessing the research performance, the mid-cycle review assesses the effectiveness of the progress that the Program has made in response to the 2007 review. One element of ORD's performance evaluation is to ensure that the assessment is transparent; a secondary element is to receive meaningful advice to move the program forward. The most important aspect of the review is the dialogue between the Program and the Subcommittee so that the Program has the information that it needs to continue to move forward. Subcommittee members will be receiving a bibliometric analysis, Annual Performance Measures (APMs), and other snapshots of Program performance; the members should not get caught up in assessing the quality and impact of the research, as that is within the purview of the full program review. Mr. Juengst will provide a 1-pager regarding the differences between the full program and mid-cycle reviews to the Subcommittee members.

Dr. Wayne Landis commented that citations are relatively useful but information about technology transfer and measures of technology transfer would be more beneficial. Is it possible to receive this information? Mr. Juengst responded that if the information is available, it will be provided to the Subcommittee members.

Overview of Material

Dr. Alan Hecht, EPA/ORD, Director for Sustainable Development

Dr. Alan Hecht thanked Dr. Giesy for continuing in his role as Subcommittee Chair, as his insight will be helpful. Dr. Hecht discussed some of the materials that the Subcommittee members have received—including the original MYP, the summary of ORD's response to the 2007 review, and a discussion paper on Program progress—and noted that he will be forwarding the APMs to Mr. Susanke for distribution to the members. The summary of ORD's response to the review was organized into seven broad themes and includes comments regarding what the Program is prepared to do, what constraints are present, and what the Program cannot do. The appendix in ORD's response to the 2007 review provides a table that details ORD's response to each of the Subcommittee's comments. Dr. Hecht noted that they created this table to ensure that the Program was comprehensive in its response.

In preparation for this mid-cycle review, the STS Research Program has engaged in intense discussions with ORD's National Program Directors and others across the Agency. A discussion paper will be provided to the Subcommittee and it will be used to reiterate the main themes and initiate important discussions at the face-to-face meeting to help address the six charge questions. The Program currently is examining what it is able to accomplish given current resources and would appreciate guidance from the BOSC in this area. The Program also would like input regarding issues that it is considering addressing. The discussion paper describes how the Program is viewed by EPA as a whole; this is important because the Program appears to be having a significant impact within the Agency. In addition, the paper explains how the STS Research Program is coordinated with other ORD programs and how it relates to future directions within the Agency. Specific details also are covered: how the Program revised the strategies based on BOSC recommendations, what actions the Program took, and future issues that the Program wants to address. The paper is an attempt to help navigate, via details, trendsetting research that the Program would like to highlight for the Subcommittee.

The APMs have not been forwarded to the Subcommittee, but an updated list will be provided for the meeting. Dr. Hecht noted that the APMs differ from those in the original MYP as a result of cutbacks. The APMs are very specific regarding what will be delivered in what timeframe.

Following the mid-cycle review, the Program will revise the MYP based on the BOSC's discussion and guidance. The new MYP will reflect the changes detailed in the response to the 2007 program review and new advice from the mid-cycle review Subcommittee. Dr. Hecht also provided published journal articles that reflect examples of research results; he offered to provide additional articles if requested by the Subcommittee.

Dr. Giesy reminded Subcommittee members to read the materials before arriving at the face-to-face meeting. The presentations will help the members put the materials in context, but time is short at the meeting; therefore, Subcommittee members already should be familiar with the materials and have their comments ready as soon as the presentations are complete. This will increase the efficiency of the face-to-face meeting discussions. If Subcommittee members need additional materials, these should be requested before the face-to-face meeting.

Overview of Program

Dr. Alan Hecht, EPA/ORD, Director for Sustainable Development

Dr. Hecht explained that EPA's Sustainability Web Site (<http://www.epa.gov/sustainability>) received a major overhaul and the new site was launched on February 11, 2009. Dr. Hecht also posted an entry on EPA's blog regarding the STS Research Program. The Program manages the Sustainability Web Site for the Agency, which is one of the most popular Web sites on sustainability, as measured by Google hits.

The STS Research Program has three Long-Term Goals (LTGs). LTG 1 defines sustainability by metrics and quantitative measures. It is a major and important deliverable for the Program to induce the Agency to adopt performance measures and sustainable goals that have an impact on decision-making and policies. There must be pilot projects to demonstrate that these measures and goals truly affect policy. There are two pilots focusing on two areas. One important effort examines sustainability metrics at the level of urban and land development to generate long-term sustainable planning on land use and development. The other effort, which is being carried out in conjunction with others within EPA and the Federal Government, is developing metrics for sustainable production of biofuels. Two questions drive this effort: What is sustainability? What is meant by sustainable biofuels? Dr. Hecht stressed that this is part of a major national biofuels effort.

LTG 2 is a decision support effort that involves examining how to influence stakeholders to use new approaches to affect sustainable outcomes. New areas are in development, and EPA is working with major companies to identify areas on which to collaborate. The Program is working with three EPA program offices regarding materials flow and how to apply tools and methods for materials management (instead of waste management).

LTG 3 emphasizes the role that technology plays in sustainability. Under LTG 3, there are three stand-alone projects: (1) the Small Business Innovation Research (SBIR) Program, which is not exclusive for sustainability; (2) the Environmental Technology Verification Program; and (3) the People, Prosperity, and the Plant Student Design Competition, known as P3. These projects have moved toward commercial development, but currently there is no integrated strategy or resources to use the efforts to justify, assess, and report on the sustainability goals of potential or existing technologies. The Program is interested in better integration within this LTG and obtaining a clearer focus of how LTG 3 can support LTGs 1 and 2.

In general, the STS Research Program has had an influence across the Agency, and as program offices consider how to move toward sustainable outcomes, they look to the Program for guidance. Although resources are the limiting factor, the Program is interested in guidance regarding its future directions.

Dr. Eric Beckman asked whether sustainability was a requirement for SBIR proposals. Dr. Hecht replied that the SBIR solicitation tries to highlight sustainability questions and emphasize the application of technologies to sustainability, but it is not a requirement.

Summary of the Multi-Year Plan

Dr. Alan Hecht, EPA/ORD, Director for Sustainable Development

Dr. Hecht explained the importance of the biofuels issue. When the sustainable research efforts were launched, the Program focused on general sustainability issues for the Agency via a systems approach.

As the MYP evolved, the BOSC and the Science Advisory Board (SAB) were concerned that it was unfocused and they recommended that metrics, technology applications, and decision-support tools be applied to an issue of national importance. The BOSC and SAB noted that performance measures, goals, and deliverables must be precise. There are many different issues that the Program could have addressed, but there were parallel efforts within and outside of the Agency regarding energy, specifically biofuels. EPA was examining the health and environmental impact of biofuel production across the entire biofuel supply chain. Additionally, the National Advisory Council for Environmental Policy and Technology (NACEPT), another FACA committee that provides advice to the Agency, concluded that the biofuels issue would impact every EPA program. NACEPT recommended that the Agency develop a strategy and provide support science for regulatory decision-making because such actions should have a significant impact on the environment.

The EPA Administrator charged the STS Research Program to coordinate the development of the Agency's strategy on biofuels. The Program spent considerable time working across EPA and other agencies to develop the science and regulatory framework that significantly impacted how all agencies, including the U.S. Departments of Energy and Agriculture, developed a national action plan. The number one goal for the Federal Government, supported by all agencies, is the sustainable production of biofuels. The Program is using the three LTGs to support this national issue, and the goal is for this to become a template to approach other issues of national importance.

Preparation for the Face-to-Face Meeting

Dr. John Giesy, Subcommittee Chair, and Mr. Phillip Juengst, EPA/ORD/ORMA

Dr. Giesy noted that this is a complex area with many elements and issues. He reiterated the importance of reading and understanding all of the material before arriving at the face-to-face meeting. Because of the nature of the mid-cycle review, he decided that writing assignments were not necessary. The Subcommittee members will work as a group at the face-to-face meeting to develop the report.

Dr. Landis asked whether it would be possible to receive an example of a mid-cycle review report. Dr. Giesy explained that there are a number of examples available on the BOSC Web Site. Mr. Susanke explained that the reports can be accessed using the "Reports" link located on the left side of the home page of the BOSC Web Site. All previous BOSC reports are available through this link. Most mid-cycle reports are approximately 20–25 pages with appendices included. The format is basic—a charge question and its response—and one to two pages are sufficient to address each charge question.

Mr. Susanke suggested that the Subcommittee discuss a specific LTG at each of the three discussion sessions scheduled for the face-to-face meeting and Dr. Giesy agreed.

Dr. Hecht explained that a survey had been distributed to Program clients on February 11, 2009, and the results would be presented at the face-to-face meeting.

Dr. Giesy mentioned that Dr. Hecht and Mr. Juengst have a minimal amount of time to present at the face-to-face meeting, and he pointed out that they had spent considerable time and effort to have the documents available to the Subcommittee members prior to the review.

In response to a question from Dr. Beckman, Dr. Giesy reiterated that all requests for additional information should come through him. This allows him to gauge what information the members need. He then will ask Mr. Susanke to work with the Program to obtain this additional information. Because ORD has and will provide to the Subcommittee a significant amount of information, members should be parsimonious in requesting additional materials. Dr. Giesy noted that some information is available on the EPA Web Site.

Mr. Susanke said that he wanted to ensure that Subcommittee members are paid promptly for their time and he asked when the members would have a solid block of time to submit. The Subcommittee members agreed that they would submit their homework sheets at the face-to-face meeting.

Dr. Robert Anex noted that it was stated early on that the Subcommittee is not reviewing the science, but the fifth charge question appears to involve science. He asked how much license the Subcommittee has to examine the science related to this question. Dr. Hecht agreed that the science could be reviewed in a general manner. The main issue is how the Program has defined sustainability and targeted its research to produce results; he acknowledged that this is a science issue as well as an administrative issue. The national action plan and EPA's internal coordinating document on biofuels are not ready at this point, but the Subcommittee can examine the three LTGs and how they support the biofuels issue. The mid-cycle review should focus on how the Program defined its research priorities and the progress that it has made since the 2007 review. Dr. Giesy added that the focus on biofuels was added following the previous review, and the Subcommittee members must consider the higher level questions of whether the Program is moving in the right direction, incorporating the right elements, and asking the right questions. The specific details that normally are included in a full program review are not included in a mid-cycle review.

Public Comment

Mr. Susanke called for public comment at 9:20 p.m. Dr. Shaw Feng of the National Institute of Standards and Technology asked whether the Program had examined the international standards related to environmental management systems and sustainability. Dr. Hecht responded that Dr. Heriberto Cabezas and his team have completed a rather extensive inventory of sustainability metrics that has been published, and the Program will carefully examine these metrics as it develops the proposal for EPA. Standards for the sustainable use of nanotechnology and biofuels were examined, but this is a work in progress. The Program is aware of international efforts and will synthesize the international information and apply it to EPA. Dr. Hecht added that the Program is not investigating mandatory standards; it is looking at measures of assessment used to help decision-makers improve performance toward sustainability. Dr. Feng indicated that he will contact Mr. Susanke via e-mail to obtain the Subcommittee materials.

Dr. Giesy thanked everyone for their participation and adjourned the meeting at 9:36 p.m.

Action Items

- ✧ Mr. Juengst will provide a 1-pager regarding the differences between the full and mid-cycle reviews to the Subcommittee members.
- ✧ If information regarding technology transfer and measures of technology transfer are available, Mr. Susanke will provide the information to the Subcommittee members.
- ✧ Dr. Hecht will forward the APMs and other materials for the review to Mr. Susanke, who then will distribute them to the Subcommittee members.
- ✧ Subcommittee members will review the materials provided for the review and be prepared to discuss answers to the charge questions.
- ✧ Subcommittee members will submit any requests for additional materials to Dr. Giesy who will then forward the requests to Mr. Susanke.

PARTICIPANTS LIST

Subcommittee Members

John P. Giesy, Ph.D., Chair

Professor and Canada Research Chair in
Environmental Toxicology
Department of Veterinary Biomedical Sciences
University of Saskatchewan

Robert P. Anex, Ph.D.

Associate Director
Office of Biorenewables Programs
Department of Agricultural and Biosystems
Engineering
Bioeconomy Institute
Iowa State University

Eric J. Beckman, Ph.D.

Bevier Professor of Engineering
Mascaro Center for Sustainable Innovation
School of Engineering
University of Pittsburgh

Wayne Landis, Ph.D.

Chair of the Department of Environmental
Sciences
Director of the Institute of Environmental
Toxicology
Huxley College of the Environment
Western Washington University

Ronald Thomas

Designated Federal Officer

Greg Susanke

U.S. Environmental Protection Agency
Office of Research and Development
Office of Science Policy

EPA Participants

Heriberto Cabezas, Ph.D.

U.S. Environmental Protection Agency
Office of Research and Development
National Risk Management Research
Laboratory

Alan Hecht, Ph.D.

U.S. Environmental Protection Agency
Office of Research and Development

Phillip Juengst

U.S. Environmental Protection Agency
Office of Research and Development
Office of Resources Management and
Administration

Other Participants

Shaw Feng, Ph.D.

National Institute of Standards and Technology

Marty Perreault

Director
Roundtable on Science and Technology for
Sustainability
The National Academies

Contractor Support

Kristen LeBaron, M.S.

The Scientific Consulting Group, Inc.



**SCIENCE AND TECHNOLOGY FOR SUSTAINABILITY MID-CYCLE
SUBCOMMITTEE**

**TELECONFERENCE AGENDA
Thursday, February 12, 2009
8:00 p.m. – 10:00 p.m. Eastern Time**

**Participation by Teleconference Only
866-299-3188
code: 2025648239#**

8:00–8:10 p.m.	Welcome - Roll Call - Overview of Agenda	Dr. John Giesy, Subcommittee Chair
8:10–8:15 p.m.	Administrative Procedures	Greg Susanke, Subcommittee DFO
8:15–8:35 p.m.	Overview of Charge/ Rating Program Performance	Dr. John Giesy, Subcommittee Chair, and Phillip Juengst, Office of Research and Development (ORD)
8:35–8:45 p.m.	Overview of Material	Dr. Alan Hecht, Director for Sustainable Development, ORD
8:45–9:15 p.m.	Overview of Program	Dr. Alan Hecht, Director for Sustainable Development
9:15–9:35 p.m.	Summary of Multi-Year Plan	Dr. Alan Hecht, Director for Sustainable Development
9:35–9:40 p.m.	Public Comment	
9:40–10:00 p.m.	Preparation for Face-to-Face Meeting - Discuss Writing Assignments - Identify Additional Information Needs	Dr. John Giesy, Subcommittee Chair
10:00 p.m.	Adjourn	