



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC - 6 2007

THE ADMINISTRATOR

M. Granger Morgan, Ph.D.
Chair
Science Advisory Board
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20406

Dear Dr. Morgan:

Thank you very much for the Science Advisory Board's September 17, 2007, consultation comments on the Emergency Consequence Assessment Tool and Incident-based Microbial Risk Assessment Framework (EPA-SAB-07-012). The U.S. Environmental Protection Agency greatly appreciates the efforts of the SAB's Homeland Security Advisory Committee, augmented by selected members of the SAB's Radiation Advisory and Drinking Water Committees, in reviewing and providing thoughtful advice on these scientific products under development by EPA's National Homeland Security Research Center.

The Agency concurs with many of the recommendations that were provided by the HSAC. Enclosed please find our responses to the major issues raised in your letter.

Again, I appreciate the HSAC's work in helping make our research efforts as scientifically sound as possible and useful to the nation in preparing for potential homeland security threats and incidents.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Johnson".

Stephen L. Johnson

Enclosures

cc: Baruch Fischhoff, Ph.D.
Rebecca Parkin, Ph.D.

Response to Science Advisory Board Comments on the U.S. Environmental Protection Agency's Emergency Consequence Assessment Tool

The U.S. Environmental Protection Agency agrees with many of the Science Advisory Board comments on the risk assessment software tool (the Emergency Consequence Assessment Tool). The Agency agrees that ECAT holds great promise as a training tool. The current scenarios in ECAT include chemical, biological, and radiological agent incidents. Since the current construction of the software tool requires a great deal of information input, EPA agrees that ECAT would be difficult to utilize in the first few hours of an event. However, since the tool provides a roadmap of the different phases of the response and the risk assessment process, it may be able to provide a structure through which training can be provided for responders and risk assessors.

The Agency has determined that ECAT will be provided to the EPA response community for training purposes. At the end of calendar year 2008, comments from the responders and trainers will be evaluated to determine what modifications can be included in the ECAT tool to support Agency training activities. Consequently, at this time, ECAT will not be evaluated for its application in actual events or used to evaluate model source terms or expected impacts of risk-based decisions. However, many specific technical comments on ECAT provided by the SAB have been incorporated into the ECAT tool.

Since ECAT will be used in training, a detailed evaluation of its impact on health protection would not be warranted at this time. ECAT is structured around the risk assessment paradigm that is used by EPA to conduct human health risk assessments. In most remedial decisions, the results of the risk assessment are only one factor among several considered when determining remedial actions. Therefore, ECAT's ultimate health impact can only be evaluated in the context of the health impact of any EPA risk assessment conducted to inform remedial decisions.

In addition, although ECAT can be a source of agent and risk information, it cannot be viewed as the only source of information available to responders or risk assessors. Therefore, further evaluation of ECAT will not include an assessment of information availability to responders and its impact on the response. However, EPA's National Homeland Security Research Center has begun a research program in risk communication separate from the development and evaluation of ECAT.

It is hoped that this risk communication research will provide data on the appropriate nature of information and messages to the public and the emergency response community during a terrorist event and that this information can be incorporated into many tools and information sources throughout the Agency. The Agency will engage the SAB for comment and counsel on NHSRC's risk communication activities, as appropriate.

Response to Science Advisory Board Comments on the U.S. Environmental Protection Agency's White Paper on Incident-based Microbial Risk Assessment Framework

Currently, there is no U.S. Environmental Protection Agency consensus-based risk assessment methodology for evaluating biological contaminants and establishing decontamination goals following a large-scale environmental contamination. EPA's National Homeland Security Research Center is developing an Incident-based Microbial Risk Assessment Framework to provide a structured approach for the development of a methodology for assessing the risks and impacts of exposure to biologicals that have been deliberately released into an environment. NHSRC sought consultation with the Science Advisory Board to address the issues and data gaps involved in assessing microbial risks to such incidents. The white paper shared with the SAB outlined the NHSRC Incident-based MRA Framework intended to address the risk assessment activities that are necessary to support the EPA's remediation mission and the derivation of cleanup goals.

The SAB consultation focused on many important issues related to the Incident-based MRA Framework's purpose, scope, and conceptual design. EPA agrees with the SAB that the Framework documents should include additional language that defines strategic goals and underlying assumptions and limits of its scope. The Framework's objective is to provide the context for future guidance and methodology development for MRAs. Therefore, by design, the Framework is a more general statement of direction and intent. As the SAB suggests in its comments, when a more specific and detailed methodology is drafted, the Agency may request a follow-up review by the SAB.

The primary intended users of the Framework and any subsequent guidance or methodology for MRA are risk assessors and health advisors, not local first responders. As with other risk assessment guidance or methodology promulgated by EPA, other agencies, states, or local authorities may choose to adopt EPA risk assessment guidance. EPA can not define how other authorities may choose to adopt guidance under their own regulator authority. However, EPA can define the scope of the risk assessment and the methodological uncertainties associated with the process to inform decision-making.

The SAB recognized the urgent need for the development of background data for biological contaminants and the central role of such information in the development of cleanup goals for various environmental settings. Also, the SAB indicated the critical need for verified analytical **methods for microbial agents in the environment**. Therefore, NHSRC is placing a high priority on the collection of background data and the development and verification of sampling and analysis methods in its research agenda.
