



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

October 2, 2007

SUBJECT: U.S. EPA Science Advisory Board (SAB) Radiation Advisory Committee (RAC) Augmented With Expertise to Review the December 2006 Draft Multi-Agency Radiation Survey and Assessment of Materials and Equipment (MARSAME) Manual

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THRU: Daniel Fort, Ph.D. /S/
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This memorandum documents the process and addresses the set of determinations used in forming this Science Advisory Board Panel. It provides background information on the subject SAB activity and addresses:

1. The charge to the Panel;
2. Type of panel that will be used to conduct the review, and the types of expertise needed to address the charge;
3. How individuals were placed on the "short list" candidates for the Panel;
4. Identification of parties who are potentially interested in or may be affected by the topic to be reviewed;
5. Whether the charge involves a particular matter and how conflict of interest regulations apply to members of the Panel; and
6. How individuals were placed on the Panel.

A. Background

The December 2006 draft Multi-Agency Radiation Survey and Assessment of Materials and Equipment Manual (MARSAME) is a supplement to the Multi-Agency Radiation Survey and Site Assessment Manual (MARSSIM) (EPA 402-R-970-016, Rev. 1, August 2000 and June

2001 update). The scope of MARSSIM was limited to surface soils and building surfaces. The MARSAME supplement addresses materials and equipment (M&E) potentially affected by radioactivity, including metals, concrete, tools, equipment, piping, conduit, furniture and dispersible bulk materials such as trash, rubble, roofing materials, and sludge. M&E may be containers and packages in general commerce or from licensed radioactivity users. The wide variety of M&E requires additional flexibility in the survey process, and this flexibility is incorporated into MARSAME.

The EPA Office of Radiation and Indoor Air (ORIA), on behalf of the Multi-Agency Work Group that prepared the draft MARSAME (Multi-Agency Radiation Survey and Site Assessment of Materials and Equipment) Manual, has requested the SAB to provide advice on the draft MARSAME Manual, dated December 2006.

B. Determinations

1) The charge to the Panel

The draft MARSAME provides an approach for planning, conducting, evaluating and documenting environmental radiological surveys to determine the appropriate disposition for materials and equipment (M&E) with a reasonable potential to contain radionuclide concentration(s) or radioactivity above background. The RAC, augmented with expertise to address the draft MARSAME Manual, will be asked to comment on the technical acceptability of this approach and discuss how well the document accomplishes this objective. In particular, the Panel will be asked to comment on the adequacy of the initial assessment process, especially the new concept of sentinel measurements, the clarity of the guidance on developing decision rules, the adequacy of the survey design process, the usefulness of the case studies in illustrating new concepts and guidance, and how the MARSAME statistical approaches in the calculation of measurement uncertainty, detectability, and quantifiability adapts to MARSSIM and MARLAP for radiological surveys of M&E. In addition, it is anticipated that the Panel will be asked to comment on terminology or application assumptions that may cause confusion among the three documents (MARSAME, MARSSIM and MARLAP).

2) Type of panel that will be used to conduct the review, and the types of expertise needed to address the charge:

The review will be conducted by an SAB panel consisting of members of the Radiation Advisory Committee (RAC) and invited experts to augment expertise needed for this particular review. The SAB Staff Office requested public nominations of experts in a *Federal Register* notice (72FR 11356) dated March 13, 2007 to augment expertise to the Radiation Advisory Committee (RAC) to form an SAB panel to review the draft Multi-Agency Radiation Survey and Assessment of Materials and Equipment (MARSAME) Manual dated December 2006. The augmented RAC will provide advice through the chartered SAB, and will comply with the provisions of the Federal Advisory Committee Act (FACA) and all appropriate SAB procedural policies, including the SAB process for panel formation described in the *Overview of the Panel*

Formation Process at the Environmental Protection Agency Science Advisory Board, which can be found on the SAB's Web site at: <http://www.epa.gov/sab/pdf/ec0210.pdf>. To augment expertise on the RAC, the SAB Staff Office was seeking individuals who have radiation expertise and knowledge of the MARSAME topic in the following areas:

- a) Statistics applicable to radiological surveys of M&E;
- b) Radioactive waste management with emphasis on after market materials recycling, decommissioning/cleanup of radiation sites, and facilities operations experience at large as well as small radiological sites;
- c) Instrumentation for radiation detection with emphasis on Measurement Quality Objectives (MQOs) as well as scan-only and in-situ survey techniques and instrumentation;
- d) Radiation data management with emphasis on Data Quality Assessment (DQA) and Data Quality Objective (DQO) protocols; and
- e) General radiation health safety, clean-up, and decommissioning a large site or facility (e.g., a nuclear waste storage facility or a nuclear power plant).

3) How individuals were placed on the "short list" candidates for the Panel:

On the basis of candidates' qualifications and availability to participate in the review meeting, the SAB Staff Office identified eleven (11) candidates to be on the "short list" in addition to the RAC members. On June 28, 2007, the SAB Staff Office posted a notice on the SAB website inviting public comments on the "short list" of prospective candidates for the Panel. The notice invited comments from members of the public for relevant information, analysis or other documentation that the SAB Staff Office should consider in the selection of experts to augment the RAC's expertise for this upcoming review. Comments were submitted by four members of the public. (See Attachment A)

4) Identification of parties who are potentially interested in or may be affected by the topic to be reviewed:

Potentially interested and affected parties include: 1) federal, state, and local government agencies, elected officials, and non-governmental organizations that focus on environmental cleanup activities, particularly related to radiation in materials and equipment (M&E), 2) those involved with the interests of industries and governments that may be affected by policies or regulations pertaining to radioactive contamination of M&E released to the environment, including but not limited to radioactive and other sources of radioactive contamination, including re-use of recycled products into the commercial market-place and in identifying short-term as well as long-term trends in the reintroduction of low-level contamination of M&E into the commercial mainstream, and 3) academic/industry/government researchers addressing the

introduction of M&E containing trace quantities of radioactivity, and consequent long-term exposure uptake from environmental and other sources introduced in any manner into the commercial product stream in the market place.

5) Whether the charge involves a particular matter and how conflict of interest regulations apply to members of the Panel:

18 U.S.C. 208 provision states that:

“An employee is prohibited from participating personally and substantially in an official capacity in any particular matter in which he, to his knowledge, or any person whose interests are imputed to him under this statute has a financial interest, if the particular matter will have a direct and predictable effect on that interest [emphasis added].”

For a conflict of interest to be present, all elements in the above provision must be present. If an element is missing, the issue does not involve a formal conflict of interest. However, the general provisions in the “appearance of a lack of impartiality guidelines” may still apply and need to be considered.

Personal and Substantial Participation:

Participating personally means participating directly. Participating substantially refers to involvement that is of significance to the matter [5C.F.R. 2640.103(a)(2)]. For this review, panel members will be participating personally in the matter through attendance at meetings, teleconferences and other means.

Direct and Predictable Effect:

A direct effect on a participant’s financial interest exists if, “... a close causal link exists between any decision or action to be taken in the matter and any expected effect of the matter on the financial interest A particular matter does not have a direct effect ... if the chain of causation is attenuated or is contingent upon the occurrence of events that are speculative or that are independent of, and unrelated to, the matter. A particular matter that has an effect on a financial interest only as a consequence of its effects on the general economy is not considered to have a direct effect.” [5C.F.R. 2640.103(a)(i)]. A predictable effect exists if, “... there is an actual, as opposed to a speculative, possibility that the matter will affect the financial interest.” [5 C.F.R. 2640.103(a)(ii)].

Particular Matter:

A “particular matter” refers to matters that “... will involve deliberation, decision, or action that is focused upon the interests of specific people, or a discrete and identifiable class of people.” It does not refer to “... consideration or adoption of broad policy options directed to the interests of a large and diverse group of people.” [5 C.F.R. 2640.103(a)(1)].

The Radiation Advisory Committee (RAC) activity augmented with expertise to review the draft MARSAME Manual qualifies as **a particular matter of general applicability** because the resulting advice will be part of a deliberation, and under certain circumstances the advice could involve the interests of a discrete and identifiable class of people, but does not involve specific parties. That group of people constitutes those who are associated or involved with the potentially interested or affected parties, as identified above.

Appearance of a Lack of Impartiality Considerations:

The Code of Federal Regulations [5 C.F.R. 2635.502(a)] states that:

“Where an employee knows that a particular matter involving specific parties is likely to have a direct and predictable effect on the financial interest of a member of his household, or knows that a person with whom he has a covered relationship is or represents a party to such matter, and where the person determines that the circumstances would cause a reasonable person with knowledge of the relevant facts to question his impartiality in the matter, the employee should not participate in the matter unless he has informed the agency designee of the appearance problem and received authorization from the agency designee.”

Further, 5 C.F.R. 2635.502(a)(2) states that:

“An employee who is concerned that circumstances other than those specifically described in this section would raise a question regarding his impartiality should use the process described in this section to determine whether he should or should not participate in a particular matter.”

Each potential advisory panel member was evaluated against the 5 C.F.R. 2635(a)(2) general requirements for considering an appearance of a lack of impartiality. Information used in this evaluation has come from information provided by potential advisory panel members (including, but not limited to, EPA 3110-48 confidential financial disclosure forms) and public comment.

To further evaluate any potential appearance of a lack of impartiality, the following five questions were posed to all prospective advisory panel members regarding the MARSAME review:

- a) Do you know of any reason that you might be unable to provide impartial advice on the matter to come before the Panel or any reason that your impartiality in the matter might be questioned?
- b) Have you had any previous involvement with the issue(s) or document(s) under consideration, including authorship, collaboration with the authors, or previous peer review functions? If so, please identify those activities.

- c) Have you served on previous advisory panels, committees, review bodies or panels that have addressed the topic under consideration? If so, please identify those activities.
- d) Have you made any public statements (written or oral) on the issue? If so, please identify the date, place and nature of your involvement pertaining to the public statement(s).
- e) Have you made any public statements that would indicate to an observer that you have taken a position on the issue under consideration? If so, please identify those statements.

The SAB staff conducted a review of information submitted by every prospective panel member including the responses to the five (5) ethics questions above and the completed SF 3110-48 form, along with public comments and information independently gathered by SAB staff. The Deputy Ethics Official of the Science Advisory Board, in consultation with the SAB Ethics and FACA Policy Officer, has determined that there are no conflict of interest or appearance of a lack of impartiality for the members of this panel.

6) How individuals were placed on the Panel:

The SAB Staff Office Director makes the final decision about who serves on the Panel. Selection criteria included: scientific and technical credentials and expertise; the need to maintain a balance with respect to members' qualifying expertise, background and perspectives; willingness to serve on the Panel, and availability to meet during the proposed time period; the absence of conflict of interest; and absence of any appearance of lack of impartiality. The Panel membership includes the following:

- Dr. Thomas Borak**, Professor, Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins (CO);
- Dr. Antone L. Brooks**, Professor, Radiation Toxicology, Washington State University, Tri-Cities, Richland, (WA);
- Mr. Bruce Church**, President, BWC Enterprises, Inc., West Hurricane (UT);
- Dr. Brian Dodd**, Consultant, Las Vegas, (NV);
- Mr. Kenneth Duvall**, Consultant, Washington (DC);
- Dr. Shirley A. Fry**, Consultant, Indianapolis, (IN);
- Dr. William C. Griffith**, Associate Director, Institute for Risk Analysis and Risk Communication, Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, (WA);
- Dr. Janet A. Johnson**, Senior Technical Advisor, MFG, Inc., Carbondale, (CO);
- Dr. Bernd Kahn**, Professor Emeritus, School of Nuclear Engineering and Health Physics, and Director, Environmental Resources Center, Georgia Institute of Technology, Atlanta, (GA);
- Dr. Jonathan M. Links**, Johns Hopkins University, Bloomberg School of Public Health, Baltimore, (MD);

Dr. Jill Lipoti, Director, Division of Environmental Safety and Health, New Jersey Department of Environmental Protection, Trenton (NJ) (Past Chair of the RAC);

Dr. Paul J. Merges, President, Environment & Radiation Specialists, Inc. Loudonville (N.Y.);

Mr. Bruce A. Napier, Staff Scientist, Radiological Science & Engineering Group, Pacific Northwest National Laboratory, Richmond (WA);

Dr. Daniel O. Stram, Professor, Department of Preventive Medicine, Division of Biostatistics and Genetic Epidemiology, Keck School of Medicine, University of Southern California, Los Angeles (CA); and

Dr. Richard J. Vetter, Head, Radiation Safety Program, Mayo Clinic, Rochester, (MN).

Concurred,

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Vanessa Vu, Ph.D.
Director
EPA Science Advisory Board Staff Office (1400F)

_____/10/2/2007_____
Date

ATTACHMENT A - List of Public Commenters

<u>Item Number</u>	<u>Commenter</u>
1)	Ronald Bresell, Auburn University
2)	Mr. Simon Frederich
3)	Mr. Henry Morton, Potomac, MD
4)	Harold Peterson, Jr.