

Invitation for Public Comment on the List of Candidates for the EPA Science Advisory Board Radiation Advisory Committee Augmented for the Consultation on Proposed Revisions to the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)

May 5, 2011

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice (Volume 75, Number 203, Pages 65014 - 65016) published on October 21, 2010 that EPA's Office of Radiation and Indoor Air (ORIA) has requested the SAB to provide advice on revision to the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The SAB Staff Office sought public nominations of nationally and internationally recognized scientists and engineers with demonstrated expertise and experience in one or more of the following areas: environmental monitoring, and sampling, geology, hydrogeology, measurement protocols, for radionuclides, metrology, radiation science and statistics.

Based on the qualifications and interest of the nominees, the SAB Staff Office identified candidates to augment the Radiation Advisory Committee (RAC) of the SAB for this advisory activity. The biosketches of these candidates are provided below. Biosketches of the members of the RAC are available at:

<http://yosemite.epa.gov/sab/sabpeople.nsf/WebCommitteesSubcommittees/Radiation%20Advisory%20Committee>

The SAB Staff Office Director will make the final decision about who will serve on the Panel based on all relevant information. This includes a review of confidential disclosure form (EPA Form 3110-48), relevant information gathered by staff, and public comments. For the EPA SAB Staff Office, a balanced Panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the general charge. Specific criteria to be used in evaluating a candidate include: a) scientific and/or technical expertise, knowledge, and experience; b) availability and willingness to serve; c) absence of financial conflicts of interest; d) absence of appearance of a lack of impartiality; e) skills working in advisory committees and panels; and, for the panel as a whole, f) diversity of scientific expertise and viewpoints.

We hereby invite comments from members of the public to provide relevant information or other documentation that the SAB Staff Office should consider in determining who should serve on the augmented Radiation Advisory Committee. Please be advised that comments received are subject to release under the Freedom of Information Act. Comments should be submitted to Dr. K. Jack Kooyoomjian, Designated Federal Officer, no later than May 26, 2011. E-mailing comments (kooyoomjian.jack@epa.gov) is the preferred mode of receipt.

Radiation Advisory Committee (RAC) Augmented for Advice on Revision of MARSSIM

Bussod, Gilles Y.

New England Research

Dr. Gilles Y. Bussod, dipl. H. Sci., Ph.D., is a Principal Scientist with New England Research, Inc. and Principal Investigator (PI) for a U.S.D.O.E. project on the characterization, and modeling of 'legacy' radioactive waste sites at Los Alamos, NM, and Hanford, WA. He holds an 'Habilitation' (Doctorate) in geophysics from the Université de Paris VII, France, and a Ph.D. in Geology from the University of California, Los Angeles. Previously he was a staff Hydrogeologist and Geochemist at Los Alamos National Laboratory, Los Alamos, NM, where he also served as Project Leader for the Yucca Mountain Project, and Principal Investigator (PI) for several research projects including The Cerro Grande Subsurface Remediation Project, and the Busted Butte Unsaturated Zone Flow and Transport Test, Nevada Test Site, NV, for which he received numerous national Awards. His academic teaching experience includes appointments as (i) Adjunct Professor in Earth Sciences at The University of Vermont, Burlington, VT, (ii) Faculty at the Catholic University of Leuven, Belgium, and (iii) Professor Candidat aux Universités de France. He was a Science Fellow at the Bayerisches Geoinstitut in Bayreuth, Germany, and the Lunar and Planetary Institute, Houston, TX, and served as a National Laboratory Representative to the Middle East, and as Delegation Member to the U.S. Secretary of State Madeleine Albright, Economic Summit Conference, Doha, Qatar. Dr. Bussod served as a member of the Radiation Advisory Committee (RAC) of the U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB). His research is centered on the validation of subsurface flow and transport models in the context of Environmental Restoration of contaminated DoD and DOE sites. He specializes in the design and implementation of integrated laboratory and field studies on radionuclide transport, and the effect of subsurface heterogeneities on modeling transport phenomena and upscaling. He holds authorship in over 60 publications involving geochemical flow and transport and related phenomena, and has over 30 invited oral presentations on subsurface modeling, experimental geophysics, petrology, geochemistry and other related topics.

Fabryka-Martin, June

Los Alamos National Laboratory

Dr. June Fabryka-Martin is a Staff Scientist in the Environmental and Earth Sciences Division at Los Alamos National Laboratory. She received a B.A. in Geography from the University of Delaware, and an M.S. and Ph.D. in Hydrology and Water Resources from the University of Arizona. Her research and work spans a broad range of topics related to radiological and chemical issues, focusing on the interpretation of geochemical and isotopic compositions as indicators of groundwater flow paths and transport processes, evaluation of the reliability of contaminant data from monitoring wells, and radioactive waste disposal issues. She has served as a member and advisor on the Radiation Advisory Committee of the SAB, including on its reviews of the Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual and the Agency's use of various regulatory environmental models. She also served recently on the Waste Form Technology and Performance committee for the National Academies' Nuclear and Radiation Board, which examined waste forms and waste processing technologies with the potential to improve efficiencies of the processing and disposal of radioactive waste.

Hoel, David G.

Medical University of South Carolina

Dr. David G. Hoel is a Distinguished University Professor in the Department of Medicine at the Medical University of South Carolina in Charleston and Principal Scientist at Exponent, Inc. He received an A.B. in mathematics and statistics from University of California at Berkeley, a PhD in mathematical statistics from University of North Carolina in Chapel Hill and was a post-doctoral fellow in preventive medicine at Stanford University. Prior to joining the Medical University of South Carolina Dr. Hoel was Division Director for Risk Assessment at the NIEHS in N.C. Dr. Hoel is a Fellow of the AAAS, a member of the Institute of Medicine of the National Academies and a National Associate of the National Academies. His awards include the Spiegleman Gold Medal in Public Health and the Ramazzini Award in Environmental and Occupational Health. He has served on numerous governmental committees including the EHC and RAC of EPA's Science Advisory Board and the BEIR V committee of the National Academy of Sciences. He was a member of IARC's committee on ionizing radiation (report 100D to appear) and contributed to the United Nations' UNSCEAR report 2006. Dr. Hoel's research has focused on risk assessment methods with particular interest in low-dose radiation exposures and cancer. This work has included stays in Hiroshima as a Director at Radiation Effects Research Foundation and currently is a RERF Scientific Counselor. He currently is a member of National Academies' Board on Nuclear and Radiation Studies.

Johnson, Janet A.

Tetra Tech MM

Dr. Janet A. Johnson is a part-time Technical Services employee of Tetra Tech MM in Fort Collins, CO and is President of Sopris Environmental, a one-person consulting company. She has expertise in health physics, radiation risk assessment, and environmental health. The radiation protection group at Tetra Tech and Sopris Environmental provide radiation protection services to industry and government including the uranium mining sector. She holds a BS in Chemistry from the University of Massachusetts, an MS in Radiological Physics from the University of Rochester, School of Medicine and Dentistry, and a PhD degree in Microbiology (Environmental Health) from Colorado State University. Dr. Johnson is a Certified Industrial Hygienist (CIH) and is also certified in the comprehensive practice of Health Physics (CHP) by the American Board of Health Physics. She is an active member of a number of radiation and health-oriented professional organizations and is a Fellow of the Health Physics Society (HPS), as well as a former member of the HPS Board of Directors. She served several terms as President of the HPS Environmental/Radon Section. She is currently a member of the Colorado Radiation Advisory Committee and served on the Colorado Hazardous Waste Commission in the 1990s. Dr. Johnson's consulting work includes the mining industry with emphasis on uranium recovery facilities. She is the Radiation Safety Officer of record for a uranium recovery facility and a rare earth mine. She was also involved in developing technical basis documents for the National Institutes of Occupational Safety and Health (NIOSH) dose reconstruction project under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA). Dr. Johnson is a former chair of the Science Advisory Board, Radiation Advisory Committee. In addition, she chaired the ERAMS II advisory (EPA-SAB-RAC-ADV-98-001, August 28, 1998).

Lundell, Jill

Portage Inc

Ms. Jill F. Lundell is the senior statistician for Portage Inc., an environmental services company where she directs all statistical activities within the company and provides statistical training to fellow employees. She has a B.S. in mathematics and an M.S. in statistics from Utah State University. She was faculty at Utah State University for 2 years prior to coming to Portage and served as a lecturer and as one of two faculty members that ran the statistical consulting service for the University during her tenure. She is a longtime member of the American Statistical Association. Ms. Lundell specializes in sampling design, data exploration, hypothesis testing, and proper analysis of undetected data. She also provides consultation in all other statistical techniques and is experienced in appropriately handling the challenges and constraints that are unique to each project. Ms. Lundell reviewed the Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) manual in 2001 and presented a talk on the importance of data quality assessment (DQA) and proper data collection and analysis techniques at the EPA Quality Management Conference in San Antonio, Texas. She has provided statistical support for a wide variety of environmental projects including the closure and demolition of the chemistry building at Utah State University, risk assessments at a uranium mine and uranium enrichment facility, decontamination and closure of radioactive wastewater ponds and storage tanks, and closure of many U.S. Department of Energy facilities under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). She has authored and contributed to numerous technical reports for these sites.

Mackenzie, Donald

Independent Consultant

Mr. Donald N. Mackenzie is the principal at Mackenzie Consulting providing consulting services to private and state and federal government agencies, offering project management and subject matter expertise in radiation protection, Deactivation and Decommissioning (D&D), and environmental remediation. Mr. Mackenzie received his undergraduate degree in Conservation and Resource Development from the University of Maryland and completed course work towards a Master's degree in Environmental Biology from Hood College. He has 30 year experience in health physics, D&D project management, and formulating policy and guidance in the radiation protection and D&D areas for the Department of Energy, the Nuclear Regulatory Commission, the State of North Carolina and private industry. Until December 2010 he was in the Office of D&D (Deactivation and Decommissioning) and Facility Engineering in the Office of Environmental Management (EM) at the Department of Energy, prior to that he served as a health physicist and West Valley Demonstration Project liaison for the EM Office of Site Support and Small Projects for 3 years. Overall, Mr. Mackenzie was in the EM Headquarters program for 20 years working on different programs and sites including; the Formerly Utilized Sites Remedial Action Program (FUSRAP), Monticello remedial action project, and the Hanford, Argonne National Laboratory and Brookhaven National Laboratory D&D programs. While supporting the Monticello remedial action project he was responsible for the review and evaluation of the vicinity property radiological surveys to include vicinity properties for remedial action. During 1992-1998, Mr. Mackenzie managed the Independent Verification Program for EM's Office of Northwestern Area Programs that covered all D&D and remedial action projects at the Hanford, Idaho, Oakland and Chicago sites. The Independent Verification Program provided independent radiological surveys and evaluation of projects meeting their radiological cleanup criteria. As a health physicist at the Nuclear Regulatory Commission, during 1986-1990, Mr Mackenzie performed licensing of radioactive materials licensees in the Office of Nuclear Materials Safety and Safeguards and evaluations of agreement states programs in the Office of Agreement States Programs. From 1982-1986 he was a health physicist for the North Carolina Radiation Protection Section where he performed licensing and inspections of radioactive materials licensees in the State of North Carolina.

Meck, Robert

Science and Technology Systems, LLC

Dr. Robert A. Meck is the President of his radiation protection consulting company, Science and Technology Systems, LLC. He holds a B.S. in mathematics from the University of Oregon, an M.S. in Radiological Physics, with a minor in Nuclear Engineering, from Oregon State University, and a Ph.D. in Biophysics from the University of California, Berkeley. He began his career as a reactor Health Physics Technical Assistant at what is now the Idaho National Engineering Laboratory. He has worked as a university Radiation Safety Officer, a basic research scientist in cell kinetics as an Assistant Professor at the University of Miami, and an Emergency Preparedness Specialist at Florida Power and Light, Co. For twenty-five years, he was on the technical staff of the U.S. Nuclear Regulatory Commission (NRC), where he was a Senior Health Physicist. His accomplishments include the roles of co-founder and NRC lead of the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) Workgroup—a multi-agency workgroup with members from the Department of Defense, Department of Energy, Environmental Protection Agency, and the NRC. He received the Vice-Presidential Hammer Award for the publication of MARSSIM and an EPA bronze medal for the publication of the Multi-Agency Radiation Survey and Assessment of Materials and Equipment Manual (MARSAME). He was the Radiation Protection Inspector for the International Atomic Energy Agency's Operational Safety Review Team at the Blayais, France nuclear power plant. His current research is focused on operational measurements of radioactivity and the chemical and radiological toxicities of uranium in the workplace.

Merges, Paul J.

Independent Consultant

Dr. Paul J. Merges is President (2003 to present) of Environment & Radiation Specialists, Inc. which provides consultant services on issues, such as radioactive, and mixed wastes, facility siting, and environmental/radiological impacts. Dr. Merges was employed for thirty years in a number of capacities with New York State's (NYS) Department of Environmental Conservation (DEC), most recently (1998 through 2003) as Director of DEC's Bureau of Radiation & Hazardous Site Management. During his DEC career, he served as DEC's Director of Radiation, Energy, Resource Conservation/Recovery and Control Act - Corrective Action, and Pesticides, as well as, Associate Director of DEC's Division of Regulatory Affairs. Dr. Merges served as an Adjunct Professor at Rensselaer Polytechnic Institute's (RPI) Graduate School of Environmental Engineering (1979-1999). He also served as a Senior Industrial Scientist (Nuclear Physics) in NYS Department of Commerce (1970-1973) where he prepared technical analyses pertaining to the design and safety of nuclear facilities. He served as a Nuclear Engineer with Knolls Atomic Power Laboratory (1965-1970) where he was involved in designing, analyzing, testing, and evaluating naval nuclear reactors. Dr. Merges has served on the U.S. Environmental Protection Agency's (EPA) Science Advisory Board (SAB) Radiation Advisory Committee (RAC), and he was involved in providing advice on the Multi-Agency Work Group's Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) Document. He also served on the SAB's Secondary Data Use Committee. He served in the Conference of Radiation Control Program Directors (Past Chairman 2002-2003), and the National Council on Radiation Protection and Measurements (NCRP) Scientific Committee 87-5 dealing with Risk Management and Analysis for Decommissioned Sites (2002-2004). Dr. Merges has published articles on low level and other radioactive wastes laws and regulatory control programs, site cleanup, conversion to coal of oil-fired power plants, alternative energy siting issues, "how clean is clean" workshops, environmental monitoring for low-level radioactive waste disposal sites, MARSSIM, and West Valley radiological cleanup criteria. Dr. Merges received his B.S. in Physics (Siena College), and M.S. in Environmental Engineering (Rensselaer Polytechnic Institute, RPI) specializing in Radiation Health, and Ph.D. (RPI) in Urban and Environmental Studies.

Morton, Henry W.

Independent Consultant

Mr. Henry W. Morton is an independent consultant in nuclear and radiation safety. His academic preparation includes a BS degree in Nuclear Engineering, earned at the University of Tennessee. His studies compiled a major in engineering, a major in mathematics, a minor in physics, and a minor in chemistry. After 5 years of professional employment, Mr. Morton studied environmental science, concentrating in radiological science, at the University of Michigan where he earned an MS in Environmental Science. Henry Morton is a Certified Health Physicist with experience in radiation protection, radioactive waste management, environmental protection, decommissioning, nuclear criticality safety, licensing and regulatory affairs, and instrument and testing methods development. These experiences involve most steps of the nuclear fuel cycle. Mr. Morton was employed in the nuclear industry for eleven years and, afterward, has served as a technical consultant. Complementary academics in nuclear engineering and in environmental science are Mr. Morton's foundation for professional experience relevant to decommissioning radioactive sites. His professional experience includes development of instrumentation and methods of measuring radiation and radioactive material. During the era of the MARSSIM, Mr. Morton has provided consultation to owners decommissioning their industrial sites, including development of decommissioning plans to be reviewed and approved by the US Nuclear Regulatory Commission, related implementation plans, and specifications for surveys and analyses. Having experience in application of the MARSSIM to decommissioning of buildings and land instills perspective and working knowledge, supported by academic understanding of the bases, that would enable Mr. Morton to contribute beneficially to improvements in the MARSSIM.

Parker, Frank L.

Vanderbilt University

Dr. Frank L. Parker is Distinguished Professor of Environmental and Water Resources Engineering, Emeritus at Vanderbilt University. He received the B.S. degree from the Massachusetts Institute of Technology and the M. S. and Ph. degrees in Civil Engineering from Harvard University. Dr. Parker's research interests are in the environmental engineering and policy management of nuclear and water materials in the USA and internationally. In the USA, among other efforts, he organized and led the first field experiments in the world on the disposal of radioactive wastes in deep geological disposal, Project Salt Vault. In the Former Soviet Union (FSU), among other efforts, he was co-editor and co-author of the first authorized, unclassified book on nuclear materials and their environmental consequences in the FSU, The Radiation Legacy of the Soviet Nuclear Complex. In the water field, he was co-editor and co-author of the first 2 books on thermal pollution, Engineering Aspects of Thermal Pollution and Biological Aspects of Thermal Pollution. Professor Parker has held leadership positions at Oak Ridge National Laboratory, the International Atomic Energy Agency, the Beijer Institute of the Royal Swedish Academy of Sciences, the International Institute for Applied Systems Analysis and Vanderbilt University. Among honors are election to the National Academy of Engineering, winner of the Wendell D. Weart Lifetime Achievement Award in Waste Management, winner of both the Alexander Heard Distinguished Service Professor Award and Harvie Branscom Distinguished Professor Award from Vanderbilt University and Fellow of the American Association for the Advancement of Science. Recent invited presentations include those at the Pontifical Academy of Sciences of the Vatican, the World Federation of Scientists' Annual Meeting on World Planetary Emergencies and the Department of Energy's Blue Ribbon Commission on America's Nuclear Future. He has served on and chaired numerous local, national and international reviews on disparate topics.

Sandquist, Gary

University of Utah

Dr. Gary M. Sandquist is Professor Emeritus of Mechanical and Nuclear Engineering and former Director of the Graduate Nuclear Engineering Program at the University of Utah. He was a Distinguished Visiting Professor in Physics and Civil and Mechanical Engineering Departments at the US Military Academy at West Point and is an Affiliate Faculty Member at Idaho State University. He is a Registered Professional Engineer in Utah (Mechanical and Structural), California (Nuclear), a Board Certified Health Physicist, a Diplomate in Environmental Engineering, a Certified Quality Auditor, and a retired US Naval Reserve Commander with an Intelligence Designator. The Reactor Supervisor and NRC Licensed Senior Reactor Operator for a Training, Research, Isotope, General Atomics (TRIGA) Research Reactor. He served as a short mission expert in nuclear science and safeguards for the IAEA and a Technical Training Director for the joint Department of Energy (DOE), Environmental Protection Agency (EPA), and Desert Research Institute (DRI) Community Radiation Monitoring Program at the Nevada Test Site. His scientific interests include radiological science, risk assessment; radiation detection, measurement and environmental transport; assessment and decontamination of chemical and radioactive hazards; and design and execution of characterization and final status surveys using MARSSIM. His scientific and technical memberships include American Health Physics Society and American Society of Engineering Education. He is a Fellow of the American Nuclear Society and the American Society of Mechanical Engineering. He has authored or co-authored over 720 publications including 7 books and book chapters, 201 refereed papers, 356 technical reports, developed 17 major technical computer codes and participated in 201 technical meetings, conferences, workshops and government hearings. He holds a BS in Mechanical Engineering, MS in Engineering Science, PhD in Mechanical and Nuclear Engineering, MBA, was a Post Doctoral Fellow at MIT, and served a Sabbatical at Ben Gurion University in Beer Sheva, Israel. He is also Owner and Manager of the veteran owned small business, Applied Science Professionals, LLC.

Zhu, Chen

Indiana University

Dr. Chen Zhu is a Professor of Geological Sciences and Public and Environmental Affairs at Indiana University and an adjunct professor at the University of Oslo, Norway. He received his Ph.D. degree from Johns Hopkins University and completed his postdoctoral fellowship at Woods Hole Oceanographic Institution. His research interests are groundwater geochemistry and geochemical modeling of water-rock interactions. Zhu's recent work involves the kinetics of feldspar dissolution, geological carbon sequestration, and arsenic and antimony in the environment. Zhu was the 2006 recipient of the John Hem Award from the National Ground Water Association in recognition of his significant advances in modeling the chemical evolution of water and a Fulbright Scholar at the University of Oslo in 2009. He was elected a Fellow of the Geological Society of America in 2005. Zhu has co-authored with Greg Anderson the textbook "Environmental Applications of Geochemical Modeling". Dr. Zhu has served on proposal review panels for the National Science Foundation, the U. S. Environmental Protection Agency, and the Department of Energy. He is currently an Associate Editor for *Geochimica et Cosmochimica Acta*, and is on the editorial board for *Journal of Contaminant Hydrology*. He was a member of the task force on geological carbon sequestration at the National Ground Water Association.