Risk-Based Approaches for Securing the DOE Nuclear Weapons Complex

Committee

Chris G. Whipple

Chair

Chris G. Whipple (Chair)
ENVIRON International Corporation

Chris G. Whipple is a principal in the Emeryville, California office of ENVIRON International Corporation, an environmental consulting firm. His professional interests are in risk assessment, and he has consulted widely in this field for private clients and government agencies. Much of his work involves radioactive materials or mercury. Dr. Whipple is a member of the National Academy of Engineering, and currently serves as co-chair of the Academies' Report Review Committee. He previously served as chair of the National Research Council (NRC) Board on Radioactive Waste Management and as a member of the Board on Environmental Studies and Toxicology. He has served on and chaired numerous NRC committees, most recently for the NRC Committee on Medical Isotope Production without Highly Enriched Uranium, which he chaired. He is a long-time member of the National Council on Radiation Protection and Measurements. Dr. Whipple received his B.S. in engineering science from Purdue University and his M.S. and Ph.D. in engineering science from the California Institute of Technology.

W. E. Boebert

Member

W. Earl Boebert
Sandia National Laboratories (retired)

W. Earl Boebert is an expert on information security, with experience in national security and intelligence as well as commercial applications. He recently retired as senior scientist at Sandia National Laboratories, and currently consults for Sandia's Office of Intelligence and Counterintelligence. He has 30 years experience in communications and computer security and is the holder or co-holder of 13 patents. Prior to joining Sandia, he was the technical founder and chief scientist of Secure Computing Corporation, where he developed the Sidewinder security server, a system which currently protects several thousand sites. Before that he worked 22 years at Honeywell, rising to the position of senior research fellow. At Honeywell Mr. Boebert worked on secure systems, cryptographic devices, flight software, a variety of real-time simulation and control systems, and won Honeywell’s highest award for technical achievement for his part in developing a very large scale radar landmass simulator. He also developed and presented a course on systems engineering and project management that was eventually given to over 3,000 students in 13 countries. He served on the National Research Council committees that produced Computers at Risk: Computing in the Information Age; For the Record: Protecting Electronic Health Information; and Information Technology for Counterterrorism: Immediate Actions and Future Possibilities.

D. J. Bostock

Member

D. Jeffrey Bostock
Lockheed Martin Energy Systems, Inc. (retired)

D. Jeffrey Bostock retired from Lockheed Martin Energy Systems, Inc., as vice-president for engineering and construction with responsibility for all engineering activities within the Oak Ridge nuclear complex. He has extensive experience managing projects as a U.S. Department of Energy contractor. He has also served as vice-president of defense and manufacturing and manager of the Oak Ridge Y-12 plant, a nuclear weapons fabrication and manufacturing facility. His career at Y-12 included engineering and managerial positions in all of the various manufacturing, assembly, security, and program management organizations. He also served as manager of the Paducah Gaseous Diffusion Plant. He was a member of the committees that produced the National Research Council (NRC) reports Proliferation Concerns: Assessing U.S. Efforts to Help Contain Nuclear and Other Dangerous Materials and Technologies in the Former Soviet Union and Protecting Nuclear Weapons Material in Russia. Mr. Bostock has also served as a panel member for the annual NRC assessment of the National Institute of Standards and Technology Measurement and Standards Laboratories. He was also a member of the NRC Committee on Oversight and Assessment of Department of Energy Project Management, and most recently, the NRC Committee on Medical Isotope Production Without Highly Enriched Uranium. Mr. Bostock received a B.S. in industrial engineering from Pennsylvania State University and an M.S. in industrial management from the University of Tennessee. He is a graduate of the Pittsburgh Management Program for Executives.

Robin L. Dillon-Merrill

Member

Robin L. Dillon-Merrill
McDonough School of Business at Georgetown University

Robin L. Dillon-Merrill is an associate professor at the McDonough School of Business at Georgetown University. Her research specializes in risk and decision analysis. In particular, Dr. Dillon-Merrill's research examines critical decisions that people have made following near-miss events in situations with severe outcomes, such as hurricane evacuation, and U.S. National Aeronautics and Space Administration (NASA) mission management. She also uses programmatic risk analysis to improve project and operational management in complex, resource-constrained environments. Her past research in risk has included supporting the U.S. Department of Energy (DOE) selection of a new tritium supply facility, aiding NASA’s Jet Propulsion Laboratory in decision making for the Mars software project resources based on an analysis of both the information system and the design. She is currently serving on the National Research Council (NRC) Committee on New Orleans Regional Hurricane Protection Projects, and has previously served on the NRC Committee on Assessing the Results of External Independent Reviews for U.S. Department of Energy Projects as well as the Committee on Opportunities for Accelerating Characterization and Treatment of Waste at DOE Nuclear Weapons Sites. Dr. Dillon-Merrill received her Ph.D. in engineering risk analysis from Stanford University, and an M.S. and B.S. from the University of Virginia.

Roger L. Hagengruber

Member

Roger L. Hagengruber
University of New Mexico

Roger L. Hagengruber is the director of the Office for Policy, Security and Technology (OPS&T) and the Institute for Public Policy (IPP) and a Research professor (political science and physics) at the University of New Mexico. He was formerly a senior vice president at Sandia National Laboratories and directed Sandia’s primary mission in nuclear weapons during the transition following the end of the Cold War. He spent much of his 30-year career at Sandia in arms control and non-proliferation activities including several tours in Geneva as a negotiator. In recent years, he has focused on the nuclear transition in the former Soviet Union and on security issues associated with counter-terrorism and has chaired or served on numerous panels that have addressed these issues. His work at the University of New Mexico includes directing the IPP work in public surveys including sampling of U.S. and European views on a wide range of security issues. The OPS&T creates multidisciplinary teams from labs and universities to explore policy options for issues in which security and technology are interrelated. He previously served on the Nuclear and Radiological Panel of the National Research Council's Committee on Science and Technology for Countering Terrorism. He received his Ph.D. in experimental nuclear physics from the University of Wisconsin and is a graduate of the Industrial College of the Armed Forces.

Joseph Krofcheck

Member

Joseph Krofcheck
Independent Consultant

Joseph Krofcheck is a consultant with the U.S. Department of Energy (DOE) Office of Intelligence and Counterintelligence dealing with matters of trust betrayal and related issues. He is active in the intelligence community with particular interest in the “insider problem.” Before beginning his current contract with DOE (in 1984), he worked with the RAND Corporation for 11 years as a resident consultant. At RAND, he developed methodology for and ran the team that assessed communicated nuclear threats for DOE and the FBI; participated as a member of the Nuclear Emergency Search Team; participated in the development of the first design basis threat for DOE nuclear facilities and programs (a project for Sandia Labs); and worked on counterterrorism projects for DOE. He also participated in the development of the Emergency Response Plan for Nuclear Threat or Blackmail for the state of California. Since 1977, he has served as a psychiatric consultant to the National Reconnaissance Office/Office of Security and Counterintelligence, and worked for 22 years (1972-1994) as a specialist reserve officer for the Los Angeles Police Department. Dr. Krofcheck received his M.D. from the University of Southern California, and completed his internship and psychiatric residency at Los Angeles County General Hospital.

William L. McGill

Member

William L. McGill
Pennsylvania State University
William L. ("Will") McGill is an assistant professor of Security Risk Analysis at the Pennsylvania State University. His research focuses on risk analysis, uncertainty modeling and decision analysis applied to homeland security, defense, and intelligence problems. His particular interests are in adversary reasoning, extreme events modeling, deception and counterdeception. His past research focused on risk, uncertainty, and reliability analysis, including both probabilistic and non-probabilistic methods with applications to critical infrastructure protection and the New Orleans Hurricane Protection System. Previously, as an intelligence officer with the Defense Intelligence Agency, he helped develop training courses and new methodologies for risk analysis, uncertainty modeling and logical reasoning. In 2003-2004, Dr. McGill was the first ASME Fellow to the Department of Homeland Security where he helped develop strategic risk analysis methodologies for infrastructure protection. Dr. McGill holds a Ph.D. in reliability engineering from the University of Maryland, is a registered professional engineer and is a certified reliability engineer with the American Society of Quality.

Thomas G. Moser

Member

Thomas G. Moser
Applied Research Associates, Inc.

Reason for Nomination:
Captain Moser has extensive experience developing military tactics and commanding special operations forces. He also has experience in counterterrorism measures as well as assessing physical security and vulnerabilities at military, nuclear, and critical civilian infrastructure facilities (including nuclear power plants).

Biographical sketch:
Captain Thomas G. Moser, USN (Ret.) is a member of the Chairman's Group of Applied Research Associates Inc (ARA), where he provides anti-terrorism and security expertise to federal, state and local government and private sector customers. Mr. Moser previously served as commanding officer of the Navy's unique RED CELL team, commanding officer of the Naval Special Warfare Development Group (a classified special SEAL Unit), and as chief of staff at the Joint Special Operations Command. Following his naval career, Mr. Moser served as a counterterrorism and special operations consultant and exercise planner for Department of Defense Special Operations Units. He developed plans to exercise the nation's response to incidents involving the use of chemical, biological, radiological, and nuclear weapons of mass destruction. He previously worked with the Department of Energy (DOE) as the site manager of the Andrews Air Force Base facility, responsible for one of the nation's Nuclear Emergency Search Teams (NEST). Mr. Moser later served as the Department of Homeland Security's (DHS') protective security advisor to South Carolina, representing DHS as an on-site critical infrastructure and vulnerability assessment specialist. Mr. Moser participated in comprehensive security assessments at nuclear power plants and material production facilities in North and South Carolina. Mr. Moser is an American Society of Industrial Security (ASIS) Certified Protection Professional (CPP) and Physical Security Professional (PSP). He holds a B.S. in Business Administration from Waynesburg College in Pennsylvania, and an MBA from Southern Illinois University.

David J. Osias

Member

David J. Osias
Centra Technology, Inc.

Dr. David Osias is currently a consultant with Centra Technology, Inc. He retired in March of 2008 as Chief of the Defense Intelligence Agency's (DIA's) Weapon Intelligence Group in the Directorate for Measurement and Signature Intelligence (MASINT) and Technical Collection. While at DIA, he had a broad range of responsibilities and gained extensive experience in intelligence analysis, much of it in technical areas relating to arms control, ballistic missiles, and weapons of mass destruction, particularly nuclear weapons. During his career, Dr. Osias led the postulated threat study, a Department of Defense (DOD) mandated recurring activity to inform decisions on physical security of U.S. nuclear forces. He was detailed twice to the Director of Central Intelligence (DCI), once to manage intelligence community activities to monitor and implement the Intermediate-Range Nuclear Forces (INF) treaty, and once to serve as National Intelligence Officer for Strategic and Nuclear Programs. He also served in a rotational assignment as Deputy Director for Intelligence and Analysis in the Office of Intelligence of the Department of Energy. For his work on the INF Treaty, Dr. Osias was awarded the DOD Distinguished Civilian Service Award. He has also been awarded Presidential Rank of Meritorious Executive, and has received two DIA director's awards. Dr. Osias received his B.S. in physics from the California Institute of Technology and his Ph.D. in nuclear science and engineering from Cornell University.

Daniel M. Schutzer

Member

Daniel M. Schutzer
Financial Services Technology Consortium

Daniel M. Schutzer is executive director of the Financial Services Technology Consortium (FSTC), a consortium of banks, financial service providers, national laboratories, and universities, all aimed at addressing strategic business-technology issues, including security and information assurance for the financial sector. Prior to joining FSTC, he served as a director and senior vice president of Citigroup with responsibilities ranging from trading to retail banking to security and corporate technology. Dr. Schutzer also served as the technical director of Naval Intelligence and Navy Command, Control, and Communications. He has also worked at Sperry Rand, Bell Laboratories, and IBM. He has authored over 65 publications and 7 books. Dr. Schutzer is a member of the Banking Industry Technology Sector (BITS) Advisory Council and is a fellow of the New York Academy of Sciences. He served as a member of the NRC Committee on Critical Information Infrastructure Protection and the Law. Dr. Schutzer received his BSEE from the City College of the City University of New York and his MSEE and Ph.D. from Syracuse University.

Brian Snow

Member

Brian Snow
National Security Agency (retired)

Brian Snow retired from the National Security Agency (NSA) in 2006 as technical director of the Associate Directorate for Education and Training, and is currently an independent security consultant and ethics advisor. Mr. Snow has a broad-based competency in security technology, and particularly cryptographic systems design. He also has expertise in security protocols, intrusion detection systems, and security assessments and evaluations as applied to confidentiality, integrity, authenticity, availability, non-repudiation, key management, network security, and information security systems. Mr. Snow spent his first 20 years at NSA performing and directing research that developed cryptographic components and secure systems, including Nuclear Command and Control systems. Computer security and network security were major aspects for these systems. His later years at NSA were spent as a senior technical director in the Research Directorate (1994-1995); the Information Assurance Directorate (1996-2002), and the Directorate for Education and Training (2003-2006). Mr. Snow received an M.S. and a B.S. from the University of Colorado, both in mathematics.

Francis X. Taylor

Member

Francis X. (Frank) Taylor
General Electric Company

Francis X. (Frank) Taylor is vice president and chief security officer for the General Electric Company (GE). He joined GE on March 7, 2005. He is responsible for overseeing GE's global security operations and crisis management processes. Prior to joining GE, Ambassador Taylor had a distinguished 35-year career in government service, where he held several senior positions managing investigations, security and counterterrorism issues. Most recently, he served as the Assistant Secretary of State for Diplomatic Security and Director of the Office of Foreign Missions, and oversaw all Department of State security programs that protect U.S. Government employees and buildings overseas from terrorist, criminal or technical attack and ensure the integrity of classified national security information produced and stored in these facilities, as well as protecting the Secretary of State and foreign dignitaries who visit the United States. Ambassador Taylor also served as the U.S. Ambassador at Large and Coordinator for Counterterrorism for the Department of State from July 2001 to November 2002. In this role, he was responsible for the implementing U.S. counterterrorism policy overseas and coordinating the US government response to international terrorist activities. During his 31 years of military service, Ambassador Taylor served with distinction in numerous command and staff positions, rising to the rank of Brigadier General in September 1996. In his final active duty assignment, Brigadier General Taylor headed the Air Force Office of Special Investigations, where he was responsible for providing commanders of all Air Force activities independent professional investigative services in fraud, counterintelligence, and major criminal matters. Mr. Taylor has received numerous awards and decorations, including the Distinguished Service Medal, the National Intelligence Distinguished Service Medal, the Defense Superior Service Medal and the Legion of Merit and the Department of State Distinguished Honor Award. The University of Notre Dame Alumni Association honored his military service with the Father William Corby Distinguished Military Service Award. Mr. Taylor received his bachelors and his masters degrees in government and international studies from the University of Notre Dame, and received his Air Force commission as a Distinguished Graduate of the Notre Dame ROTC program.

Mary D. Zalesny

Member

Mary D Zalesny
Pacific Northwest National Laboratory

Mary D Zalesny is a behavioral and social scientist with the National Security Directorate at Pacific Northwest National Laboratory. She has over 25 years of research, teaching and consulting experience in organizational and group behavior. Her research and professional experience include both basic and applied research in leadership and group behavior and processes, human judgment and information processing, networks (terrorist and social) and networked organizations, insider threat, and cyber and nuclear security. Analytic tools applied in the research and project work include social network analysis, statistical analysis (univariate and multivariate), network analysis, red team assessments, survey and test evaluation development, administration and analysis, and scenario development, among others. Her recent research has included: ongoing technical support to the Department of Defense, Joint Chiefs of Staff, on behavioral and organizational issues related to terrorism and insurgencies; serving as a member of the U.S. Department of Energy (DOE)-National Nuclear Security Administration team to identify insider threat issues at facilities storing and/or using radioactive materials for the Global Threat Reduction Initiative; serving as behavioral technical lead on a study of the insider threat for the Counterintelligence Field Activity; and advising the DOE’s Radiological Dispersion Device (RDD) project (now Radiological Threat Reduction) on the social and psychological impacts related to RDD events. Dr. Zalesny received a B.S. in psychology and an M.A. and Ph.D. in industrial/organizational psychology from the University of Illinois at Urbana.