Performance-Based Safety Regulation

Committee

Detlof von Winterfeldt

Chair

Detlof von Winterfeldt is Professor of Industrial and Systems Engineering at the Viterbi School of Engineering and Professor of Public Policy and Management at the Price School of Public Policy at the University of Southern California. In the interim, he was on a leave of absence from USC as the Director of the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria. Concurrently with his term at IIASA, he was a Centennial Professor of Management Science at the London School of Economics and Political Science. His research interests are in the foundation and practice of decision and risk analysis as applied to the areas of technology development, environmental risks, natural hazards and terrorism. He has served on about a dozen National Academies committees, including the Committee on Decisionmaking under Uncertainty, Committee on Transportation of Radioactive Waste, and the Board on Mathematical Sciences and their Applications. He is a Fellow of the Institute for Operations Research and the Management Sciences (INFORMS) and of the Society for Risk Analysis. In 2000 he received the Ramsey Medal for distinguished contributions to decision analysis from the Decision Analysis Society of INFORMS. In 2009 he received the Gold Medal from the International Society for Multicriteria Decision Making for advancing the field and in 2012 he received the distinguished achievement award by the Society for Risk Analysis. He earned his bachelor’s and master’s degrees in psychology from the University of Hamburg and a Ph.D. in mathematical psychology from the University of Michigan.

Kenneth E. Arnold

Member

Kenneth E. Arnold (NAE) is Senior Technical Advisor for WorleyParsons and President of K. Arnold Consulting, Inc. He has more than 45 years of experience in projects, facilities, and construction related to upstream oil and gas development. He spent 16 years at Shell in engineering research management before forming Paragon Engineering Services, a project management and offshore engineering company, in 1980. Paragon was sold to AMEC in 2005. Mr. Arnold is the author, coauthor, or editor of several textbooks and numerous technical articles on the design and project management of production facilities. He taught production facility design at the University of Houston and has been active in the Society of Petroleum Engineers (SPE) and other technical societies. He was named Houston's 2003 Engineer of the Year by the Texas Society of Professional Engineers and is the recipient of the SPE Public Service Award and the DeGolyer Distinguished Service Medal. He was elected to the National Academy of Engineering in 2005, cited for work in process safety management for offshore oil and gas production facilities. He served on two Marine Board committees, including the 1990 Committee on Alternatives for Offshore Inspection, and was a member of the Marine Board for 6 years. He chaired the TRB Committee on the Effectiveness of Safety and Environmental Management Systems for Outer Continental Shelf Oil and Gas Operations and currently a member of the Gulf Program Research Advisory Committee. He earned a bachelor's degree in civil engineering from Cornell University and master's degree in civil engineering from Tulane University.

Cary Coglianese

Member

Cary Coglianese is Edward B. Shils Professor of Law and Professor of Political Science at the University of Pennsylvania, where he currently serves as the director of the Penn Program on Regulation and has served as the law school's Deputy Dean for Academic Affairs. He specializes in the study of regulation and regulatory processes, with an emphasis on the empirical evaluation of alternative regulatory strategies and the role of public participation, negotiation, and business-government relations in policymaking. He authored the books: Does Regulation Kill Jobs?; Regulatory Breakdown: The Crisis of Confidence in U.S. Regulation; Import Safety: Regulatory Governance in the Global Economy; and Regulation and Regulatory Processes. Prior to joining the faculty of the University of Pennsylvania, he was on the faculty of Harvard University's John F. Kennedy School of Government, where he was a coauthor of the report "Performance-Based Regulation: Prospects and Limitations in Health, Safety and Environmental Protection." He also has taught as a visiting law professor at Stanford and Vanderbilt, founded the Law & Society Association's international collaborative research network on regulatory governance, and served as a founding editor of the journal Regulation & Governance. A co-chair of the American Bar Association (ABA) administrative law section committee on e-government and past co-chair of its committee on rulemaking, he has led a National Science Foundation initiative on e-rulemaking, served on the ABA's task force on improving Regulations.Gov, and chaired a task force on transparency and public participation in the regulatory process. He earned an A.B from The College of Idaho and an M.P.P, J.D., and Ph.D. in Political Science from the University of Michigan.

Louis A. Cox, Jr.

Member

Louis Anthony Cox, Jr., (NAE) is President of Cox Associates, an applied research company specializing in quantitative health risk assessment, causal modeling, probabilistic and statistical risk analysis, data mining, and operations research. Since 1986, Cox Associates mathematicians and scientists have developed and applied computer simulation and biomathematical models, statistical and epidemiological risk analyses, causal data mining techniques, and operations research and artificial intelligence risk models to improve health, business, and engineering risk analysis and decision making. He is on the faculties of the Center for Computational Mathematics and the Center for Computational Biology at the University of Colorado at Denver and is Clinical Professor of Biostatistics and Informatics at the University of Colorado Health Sciences Center, where he has focused on uncertainty analysis and causation in epidemiological studies. He was elected to the National Academy of Engineering in 2012 cited for his application of operations research and risk analysis to significant national problems. He has served on numerous National Academies committees. He is a member of the Board on Mathematical Sciences and Their Applications and the Industrial, Manufacturing, and Operational Systems Engineering Peer Committee. He was a member of the Committee on Options for Implementing the Best Available and Safest Technologies for Offshore Oil and Gas Operations. He earned a bachelor's degree from Harvard University, master's degree in operations research from MIT, and Ph.D. in risk analysis from MIT.

Robin L. Dillon-Merrill

Member

Robin L. Dillon-Merrill is Professor and area head for the Operations and Information Management group in the McDonough School of Business at Georgetown University. Her research focuses on explaining how and why people make certain decisions under conditions of uncertainty and risk. Her work examines the critical decisions that people have made following near-miss events in situations with severe outcomes including hurricane evacuation, terrorism, cybersecurity, and NASA mission management. She has received research funding from the National Science Foundation, NASA, the Department of Defense, and the Department of Homeland Security. She began her academic career on the faculty of the Pamplin College of Business, Virginia Tech. She was previously a systems engineer for the Fluor Daniel Corporation. She has served on several National Academies committees, including the Committee on Risk-Based Approaches to Securing the DOE Nuclear Weapons Complex and the Committee on New Orleans Regional Hurricane Protection Projects. She earned B.S. and M.S. degrees from the University of Virginia and a Ph.D. in systems engineering from Stanford University.

Lois N. Epstein

Member

Lois N. Epstein is Arctic Program Director for The Wilderness Society, responsible for programs to protect Arctic ecosystems by ensuring that oil and gas operations are safe and environmentally sound and located in non-sensitive areas. She advocates for oil and gas regulations that are effective in ensuring public safety and protecting the environment by testifying before Congress and other governmental bodies, engaging in onshore and offshore planning processes, and serving as a technical advisor to Native and non-Native members of the public. Before joining The Wilderness Society she was a private consultant on environmental policy issues and a senior engineer for several non-profit organizations. She was President of LNE Engineering and Policy, a consultancy, and Senior Engineer for Cook Inletkeeper. In these positions, she was responsible for researching and publicizing the performance of the oil and gas industry, discussing the industry's performance with government and industry decisionmakers, and seeking remedies for gaps in state and federal regulations. She is currently President of the Board of Directors of the Pipeline Safety Trust and serves on the Board of Directors of the Alaska Public Interest Research Group. She was a member of the Technical Advisory Committee and Citizens Air Quality Advisory Group of the Anchorage Metropolitan Area Transportation Solutions, the city's metropolitan planning organization. She has also served on a number of other governmental committees and task forces, including the USDOT's Technical Hazardous Liquid Pipeline Safety Standards Committee, the US EPA's Effluent Guidelines Task Force, and the Bureau of Safety and Environmental Enforcement's Offshore Energy Safety Advisory Committee. She earned a master's degree in civil engineering from Stanford University, bachelor's degree in English from Amherst College, and bachelor's degree in mechanical engineering from the Massachusetts Institute of Technology.

Orville D. Harris

Member

Orville D. Harris is President of O.B. Harris, LLC, which is an independent consultancy specializing in the regulation, engineering, and planning of petroleum liquids pipelines. From 1995 to 2009, he was Vice President of Longhorn Partners Pipeline, L.P., which operates a 700-mile pipeline that carries gasoline and diesel fuel from Gulf Coast refineries to El Paso, Texas. In this position, he was responsible for engineering, design, construction, and operation of the system. From 1991 to 1995, he was President of ARCO Transportation Alaska, which owns four pipeline systems in the state, including the ALYESKA Pipeline Service Company, which transports 25 percent of the crude oil from the North Slope of Alaska to the Port of Valdez. From 1977 to 1990, he held several supervisory and managerial positions at the ARCO Pipeline Company, including District Manager for Houston and Midland, Texas, Manager of the Northern Area, and Manager of Products Business. While at ARCO Transportation, he directed the efforts of a team of corrosion engineers making $400 million of repairs to the ALYESKA system. He is a past member of the Board of Directors of the AOPL and PHMSA's Technical Hazardous Liquids Pipeline Safety Standards Committee. He served on the TRB Committee for a Study of Pipeline Transportation of Diluted Bitumen and the DELS Committee on the Effects of Diluted Bitumen on the Environment. He holds a bachelor's degree in civil engineering from the University of Texas and an M.B.A. from Texas Southern University.

L. R. Keller

Member

L. Robin Keller is Professor of Operations and Decision Technologies in The Paul Merage School of Business at the University of California, Irvine. Since joining the school’s faculty in 1982 she has served many roles, including the Doctoral Program Director, Associate Dean, and Area Coordinator for Operations and Decision Technologies. Her research centers on decision analysis, spanning multiple attribute decision making, fairness, perceived risk, probability biases, problem structuring, temporal discounting, and planning protection against terrorism, environmental, health, and safety risks. She served as a program director for the Decision, Risk, and Management Science Program of the U.S. National Science Foundation from 1989-1991. She is Past President of the Decision Analysis Society of the Institute for Operations Research and the Management Sciences. She was awarded the Institute’s 2015 Ramsey Medal for distinguished contributions to decision analysis and was named an institute Fellow in 2004. She has also served as Vice President-Finance and Council Member of the Institute of Management Sciences and on the U. S. National Committee for the International Institute for Applied Systems Analysis. She has published more than 60 journal articles, technical reports, and book chapters and was Editor-in-Chief of Decision Analysis. She has served on several National Academies committees, including the U.S. National Committee for the International Institute for Applied Systems Analysis and the Committee on Ranking FDA Product Categories Based on Health Consequences. She earned a B.A. in mathematics, an M.B.A., and a Ph.D. in management science from the University of California, Los Angeles.

Allison M. Macfarlane

Member

Allison M. Macfarlane is Professor of Science and Technology Policy at George Washington University and Director of the Center for International Science and Technology Policy at the Elliott School of International Affairs. She recently served as Chairman of the U.S. Nuclear Regulatory Commission from July, 2012 until December, 2014. As Chairman, she had safety oversight responsibility for all commercial nuclear reactors, for the regulation of medical radiation and nuclear waste, and for representing the U.S. in negotiations with international nuclear regulators. From 2010 to 2012 she served on the Blue Ribbon Commission on America's Nuclear Future, appointed by the Obama Administration to make recommendations about a national strategy for dealing with the nation's high-level nuclear waste. During her academic career, she held fellowships at Radcliffe College, MIT, Stanford University, and Harvard University. She has been on the faculty of Georgia Tech and George Mason University. Her expertise is in nuclear waste disposal and nuclear energy regulatory issues. Her research has focused on environmental policy and international security issues associated with nuclear energy. She served on National Academies Committee for a Review of the DOE Nuclear Energy R&D Program. She earned a bachelor's of science degree in geology from the University of Rochester and Ph.D. in geology from MIT.

Rachel McCann

Member

Rachel McCann is Policy Advisor in the Hazardous Installations Directorate of the United Kingdom Health and Safety Executive (HSE) where she specializes in chemical industries and onshore major hazards. HSE is responsible for the regulation and enforcement of workplace health, safety, and welfare and for research into occupational risks. The agency's health and safety regulations cover more than two dozen sectors, including agriculture, air transport, chemical manufacturing, offshore oil and gas installations, health services, construction, and gas supply. As a policy official in the lead unit for the regulation of onshore major hazards in the UK, she has access to an extensive network of other officials, specialists, and agencies, involved the regulation of chemical industry in the European Union (EU). She served on a small team of government officials who transposed the European Union Seveso III Directive on the control of major accident hazards into UK domestic regulation and continues to work on domestic and European interpretation issues regarding the legislation. She is involved in HSE's work to develop the UNECE Transboundary Effects of Industrial Accidents Convention and is a member of the Bureau of the OECD Working Group on Chemical Accidents. Prior to joining HSE, she spent eight years working in operational and policy roles linked to immigration in the UK Home Office.

Arthur D. Meyer

Member

Arthur D. Meyer retired in 2013 as the Chief Operating Officer, Liquids Pipelines for Enbridge, where he and his team had responsibility for the operation of 16,000 miles of pipeline delivering over 2 million barrels per day of oil, refined products and other petroleum liquids to customers across North America. Enbridge operates the world's longest liquids transportation system and also has a significant presence in natural gas transmission, midstream and distribution, renewable energy, and involvement in power transmission. He has 35 years of experience in the pipeline industry with prior executive appointments at Enbridge including Senior Vice President, Pipeline Integrity and Engineering, Senior Vice President, Major Projects, President, Enbridge Pipelines (Athabasca) Inc., President, Enbridge Wind Power Inc., Vice President, Technology, Vice President, Liquids Marketing, Vice President, Engineering, and General Manager, Producers Pipelines Inc. Before joining Enbridge, he held managerial and engineering roles at Trans Mountain Pipe Line Company Ltd., Alberta Products Pipe Line Ltd. and the pipeline division of Gulf Canada Ltd. He has been active in industry associations serving as Chair of U.S based Pipeline Research Council International, the Alberta Chamber of Resources, and the Petroleum and Natural Gas Steering Committee of the Canadian Standards Association. He has also served on Boards or Committees of the Canadian Energy Pipeline Association, the Association of Oil Pipelines, the Steering Committee on U.S. Energy Pipelines and Research, and the International Pipeline Conference Foundation. He has been appointed to several government advisory roles and served with non-profit organizations in support of health, education, and the arts. He holds a B.Sc. in Mechanical Engineering and an M.B.A., both from the University of Alberta.

Donald P. Moynihan

Member

Donald P. Moynihan is Professor of Public Affairs at the La Follette School of Public Affairs, University of Wisconsin. His research examines the application of organization theory to public management issues such as performance, budgeting, homeland security, election administration, and employee behavior. In particular, he studies the selection and implementation of public management reforms. His book, The Dynamics of Performance Management: Constructing Information and Reform (Georgetown University Press 2008), was named best book by the Academy of Management's Public and Nonprofit Division and received the Herbert Simon award from the American Political Science Association, which honors the book with the most significant influence in public administration scholarship in the last three to five years. In 2014, he was awarded the Kershaw Award, which is provided every two years by Mathematica and the Association of Public Policy and Management to one scholar under the age of 40 for outstanding contributions to the study of public policy and management. He was awarded the 2011 National Academy of Public Administration/Wilder School award for scholarship in social equity and is the President of the Public Management Research Association. He is President of the Public Management Research Association and a Fellow of the National Academy of Public Administration. He earned a bachelor's degree in public administration from the University of Limerick and a master's and Ph.D. in public administration from the Maxwell School of Citizenship and Public Affairs at Syracuse University.

Susan S. Silbey

Member

Susan S. Silbey is Leon and Anne Goldberg Professor of Humanities, Professor of Sociology and Anthropology, and Professor of Behavioral and Policy Sciences, Sloan School of Management at the Massachusetts Institute of Technology. Her research centers on the governance and regulatory and audit processes in complex organizations. Her most recent research focuses on the creation of management systems for containing risks, including ethical lapses, as well as environment, health and safety hazards. She authored and coauthored several books including The Common Place of Law: Stories from Everyday Life (with Patricia Ewick) (1998), In Litigation: Do the 'Haves' Still Come Out Ahead (with Herbert Kritzer) (2003), and Law and Science (II): Regulation of Property, Practices, and Products (2008). She is on the editorial board of Regulation & Governance, Engaging Science, Technology and Society, Qualitative Sociology, and Annals of the American Association of Political and Social Science, where she was Issue Editor of “Organizational Challenges to Regulatory Enforcement and Compliance: A New Common Sense About Regulation.” She is a recipient of numerous prizes and awards including a John Simon Guggenheim Foundation Fellowship and the Harry Kalven Jr. Prize for advancing the sociology of law. She is Past President of the Law & Society Association and a fellow of the American Academy of Political and Social Science. She earned a B.A. CUNY Brooklyn College, M.A. from the University of Chicago, Ph.D. from the University of Chicago.

James A. Watson, IV USCG

Member

James A. Watson, IV is President and Chief Operating Officer of the Americas Division of the American Bureau of Shipping. Prior to beginning this appointment in 2013, he was the Director of the Bureau of Safety and Environmental Enforcement (BSEE). As Director of BSEE, he was responsible for promoting safety, protecting the environment and conserving resources through the regulatory oversight and enforcement of offshore operations on the U.S. Outer Continental Shelf. Before joining BSEE, he rose to the rank of Admiral in the U.S. Coast Guard (USCG). He served as the USCG's Director of Prevention Policy for Marine Safety, Security and Stewardship, where his responsibilities included commercial vessel safety and security, ports and cargo safety and security and maritime investigations. He was designated as the Federal On-Scene Coordinator for the government-wide response to the Macondo oil spill in the Gulf of Mexico in June 2010. He has served on the TRB Committee on Offshore Oil and Gas Safety Culture Framing Study. Admiral Watson holds a bachelor's degree in marine engineering from the U.S. Coast Guard Academy, master's degree from the University of Michigan in mechanical engineering and naval architecture, master's degree in strategic studies from the Industrial College of the Armed Forces.