

**Written Testimony of Kristen M. Kulinowski, PhD
Nominee for Chemical Safety Board Member
Before the U.S. Senate Committee on Environment and Public Works
July 15, 2015**

Thank you, Chairman Inhofe, Ranking Member Boxer, and distinguished members of the Committee. I am honored to have been nominated by President Obama to be a Member of the U.S. Chemical Safety and Hazard Investigation Board (CSB). I am joined here today by my family, friends and colleagues, who have supported and inspired me throughout my career.

This nomination is the culmination of two decades of professional experience in academia and public policy. I am currently employed at the Institute for Defense Analyses (IDA) Science and Technology Policy Institute (STPI), a federally funded research center that performs objective analysis of national science and technology policy in support of the White House Office of Science and Technology Policy (OSTP) and other federal executive agencies. In the four years I've been at IDA, I've worked on a diverse set of topics including program evaluation, innovation policy, disaster response, and regulatory science. My work has allowed me to collaborate with sponsors across the Federal government providing me with a unique perspective on the complex technical issues that influence national policy.

While my portfolio at STPI has been broad, first and foremost, I am a chemist. I hold a BS in chemistry with Honors from Canisius College and MS and PhD degrees in chemistry from the University of Rochester. After earning my doctorate, I held faculty appointments at Cal Poly—San Luis Obispo and Rice University before coming to Washington, DC in September 2001 as a Congressional Science and Technology Policy Fellow. I was selected through a competitive process by SPIE-The International Society for Optical Engineering and the Optical Society of America in the fellowship program run by the American Association for the Advancement of Science. The fellowship program places scientists and engineers in Congressional offices to participate in the policy making process and to bring their scientific expertise to bear upon complex technical issues of national importance.

On 9/11 my cohort was in our pre-placement orientation program, being briefed on the Congressional Research Service, when word came about the attacks on our country. Later that day I went to the Pentagon as a volunteer with the American Red Cross, with whom I had been a longstanding volunteer, to serve emergency workers responding to the attack. This experience shaped my decision to accept a fellowship placement in then-Congressman Markey's office where I staffed the Bipartisan Task Force on Nonproliferation. My time on Senator Markey's staff gave me insight into the impact that a bipartisan policy process can have when working through complicated technical and political issues to achieve a common goal.

Following my time on Capitol Hill, I returned to Rice University to join the newly created National Science Foundation Center for Biological and Environmental Nanotechnology (CBEN), where I served as Executive Director. My research at CBEN focused on the emerging issues associated with the environmental, health, and safety implications of engineered nanomaterials. This part of my background is particularly relevant to the activities of the Chemical Safety Board because it is where I earned my experience with worker health and safety.

When I began my appointment in the center, nanotechnology was a fledging field full of promise and excitement but there were concerns that the novel chemical and physical properties of these materials could lead to unintended and unwanted interactions with people and the environment. Absent any specific guidance governing the handling of nanomaterials during the manufacturing, use and disposal of products containing nanomaterials, companies were concerned about investing resources into developing products without regulatory or market certainty. My policy experience afforded me the ability to help focus our center's efforts on evaluating the potential risks associated with the manufacturing and use of nanomaterials while few others were actively engaging in research on this topic.

In a departure from traditional industrial-university partnerships, and at the urging of our industrial affiliates, we created the International Council on Nanotechnology (ICON), a multi-stakeholder coalition dedicated to investigating and communicating nanomaterials' potential risks. Under my leadership as Director, ICON created a neutral space where people from companies, environmental and consumer advocacy groups, government agencies, and universities could explore dispassionately the limited but growing body of scientific evidence about nanomaterial risk. Governance was shared amongst the stakeholder groups, ensuring that no one sector would dominate the agenda, and high-quality fact-based evidence was prized above all else. ICON's work products, including a survey of industry practices, an assessment of the highest priority research needs, a knowledge base of publications on nanomaterial risk and a wiki on occupational health and safety practices, continue to have impact in the community and our innovative model for engagement remains an example of what multi-stakeholder collaboration can achieve.

Although the outcomes from ICON are something that I am personally proud of, creating an environment where stakeholders could have frank and honest discussions around sensitive issues, like the environmental, health and safety impacts of a potentially lucrative emerging class of materials, was not a trivial task. Working to reach a consensus among groups that are usually on opposite sides of an issue was a significant challenge. It took time and effort to gain the trust of these disparate groups and to foster trust among them. My role as Director of ICON taught me much about working across diverse groups, which I believe will serve me well as a Member of the CSB. It also sensitized me to the challenges of promoting safe and healthy workplaces for all Americans.

Workers are on the front lines of industrial processes and have high potential exposure to the risks of these processes. Fortunately, risks to U.S. workers from nanomaterial production have yet to manifest and, hopefully, they never will. My experience exploring these issues brought me into contact with a larger community of people interested in making workplaces safer. I have partnered with the National Institute for Occupational Safety and Health, the Occupational Safety and Health Administration, the National Institute for Environmental Health Sciences, and the International Chemical Workers Union on projects directly related to protecting workers from occupational exposure to hazardous materials.

The knowledge that many major industrial accidents could have been prevented drives me to continue my work in the area of industrial health and safety. Having lived in Texas for over a decade, part of my motivation for seeking this nomination comes from the recent industrial accidents in La Porte and West, Texas which resulted in fatalities and significant impact to the communities.

The CSB is a small agency with a large and important mission: to investigate the root causes of major industrial accidents that have adversely impacted workers or the surrounding community. I appreciate

that the CSB is dedicated to using facts and evidence to determine the causes and avoids approaching investigations with preconceived notions about the outcome. That's the approach that I adopted when working on nanoparticle health and safety and it governs how I perform my analyses in my current job. The CSB's rigorous, technical analyses provide a solid foundation for making recommendations to industry, labor, and local, state and federal agencies for changes that can help prevent accidents from happening in the future.

I am honored and excited to be considered as a Chemical Safety Board Member. If confirmed, I will draw on my technical skills, experience with stakeholder engagement, and scientific dispassion to work toward the shared goal of ensuring that every American industrial worker goes home at the end of his or her shift. Thank you for the opportunity to share my qualifications and background with you and for your consideration of my nomination.

Kristen Kulinowski – Biographical Sketch

Kristen M. Kulinowski, Ph.D. has expertise in chemical and materials sciences, occupational health and safety issues, risk policy, nanotechnology, emergency response, and research administration. Dr. Kulinowski is a Research Staff Member in the IDA Science & Technology Policy Institute (STPI). STPI is a federally funded research and development center (FFRDC) chartered by Congress that provides rigorous and objective analysis of science and technology policy issues for the White House Office of Science and Technology Policy (OSTP) and other offices and councils within the executive branch of the U.S. government and federal agencies.

Prior to joining STPI in 2011, she was at Rice University as Senior Faculty Fellow in Chemistry, Executive Director for the Center for Biological and Environmental Nanotechnology (CBEN) and the Director of the International Council on Nanotechnology (ICON). ICON published the first database of citations to peer-reviewed nanomaterial environmental health and safety papers, a survey of best practices for nanomaterial workplaces, and the GoodNanoGuide, an interactive forum for sharing information about nanomaterial handling practices sponsored by the National Institute for Occupational Safety and Health. Dr. Kulinowski has advised governments on nanotechnology policy issues and was a founder of ASTM International's standards committee on nanotechnology. She is co-author of a National Institute for Environmental Health Sciences white paper on training hazardous waste workers to handle nanomaterials and was principal investigator on an Occupational Safety and Health Administration grant to develop instructional materials to assist companies in creating and sustaining safer nanomaterial workplaces.

Dr. Kulinowski's introduction to policy stems from her experience as the OSA-SPIE Congressional Science Policy Fellow of 2001-2002, where she worked in the U.S. House of Representatives on legislation involving weapons of mass destruction, terrorism, and domestic nuclear power security.

Dr. Kulinowski received a B.S. degree in chemistry with honors from Canisius College and M.S. and Ph.D. degrees in chemistry from the University of Rochester.