

Written Testimony of Dr. Rafael Moure-Eraso
Chairperson of the US Chemical Safety Board
House Oversight and Government Reform Committee
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Good Morning, my name is Rafael Moure-Eraso and I am chairperson of the US Chemical Safety Board or CSB. I would like to thank Congressman Issa and Ranking Member Cummings for inviting me to speak today on behalf of myself and the CSB.

First allow me to give a quick overview of my background. I hold an undergraduate and graduate degree in engineering from Bucknell University as well as a masters and doctorate in environmental health from the University of Cincinnati. I came to this great country -- as an immigrant from Colombia -- more than 47 years ago. I have been a US citizen for 33 years. I consider my tenure at the CSB as an opportunity to give back to this country, after having served for 23 years as a university professor.

I was honored to become the CSB chairperson in 2010 and am currently nearing my fifth and final year of appointment. The CSB's work is important to me not only as a professional undertaking, but because as a father and grandfather, I want to ensure that the accidents I have witnessed do not befall other communities and families I have too often seen so devastated by tragic losses, and often avoidable incidents.

As many of you may know the CSB is an independent federal agency charged with investigating serious chemical accidents. The CSB is internationally known as an expert organization in chemical safety and prevention and has built a solid reputation by deploying to over 100 incidents since 1998.

These investigations have included over 700 new chemical safety recommendations to EPA, OSHA, state regulators, industry organizations, unions, and companies. The CSB tracks recommendations to completion and has so far successfully closed 75% of its safety recommendations (533) based on acceptable actions by recipients. These actions make American businesses, workplaces, and communities safer. Among the major actions prompted by specific CSB investigations and recommendations are:

- The national and international fuel gas codes have been changed, and new codes have been developed, to prohibit unsafe natural gas handling practices (such as releasing natural gas in or near building during pipe cleaning operations) which had previously led to many accidents and fatalities, including Connecticut and North Carolina blasts investigated by the CSB
- New York City comprehensively overhauled its fire code, adopting a modern fire code for the first time since 1918, following the CSB investigation of a building explosion in Manhattan
- Massachusetts developed new stringent hazardous materials rules for plants, following the CSB investigation of a plant explosion that devastated a community in Danvers, MA

- Mississippi enacted new rules increasing safety at thousands of oil sites, following a innovative CSB investigation conducted collaboratively with Mississippi students about the problem of teenagers being accidentally killed while “hanging out” near remote oil tanks containing explosive vapors
- OSHA began rulemaking, in 2009, on a comprehensive standard to prevent combustible dust explosions in industry, which the CSB found had led to nearly 300 plant fires and explosions over a 25 year period
- OSHA modernized its hazard communication standard to require companies to disclose combustible dust hazards through worker right-to-know programs
- OSHA added a new appendix to its laboratories standard (1910.1450) to emphasize the importance of evaluating physical hazards in laboratory settings.
- EPA updated its risk management program requirements to require more timely reporting of accidents to regulators and the public, and to require reporting on accidents caused by reactive chemicals – this followed a number of reactive chemical accidents the CSB investigated
- The Treasury Department strengthened its requirements for the safety of federal contracts directing hazardous activities (following an explosion during fireworks disposal that killed five contract workers)
- The President issued Executive Order 13650, in August 2013, which calls upon federal agencies like OSHA and EPA to evaluate the need for potential regulatory changes to promote chemical safety. As a result of the EO, OSHA issued a Request for Information (RFI) on potential revisions to the PSM standard. The CSB submitted extensive comments to the RFI in a letter dated March 31, 2014 available at: http://www.csb.gov/assets/1/16/CSB_RFIcomments.pdf
- The American Petroleum Institute developed numerous new safety practices, including safety guidance for starting up and operating oil production sites, for reporting safety indicators from refineries, and banning unsafe trailers from hazardous areas of refineries (the cause of 15 deaths and 180 injuries at BP’s Texas City refinery, investigated by the CSB)
- National engineering curriculum groups developed new requirements so that all U.S. chemical engineers are taught chemical safety concepts as part of undergraduate education, following a reactive chemical explosion the CSB investigated in Florida
- The American Chemical Society developed new guidance for evaluating fire and explosion hazards in chemical research laboratories, that had caused many accidents in universities, including a Texas university explosion the CSB investigated
- The American Institute of Chemical Engineers developed new guidance for evaluating and controlling reactive chemical dangers in industry
- CSB findings and recommendations have led to a broad range of changes in NFPA codes and ICC standards such as those pertaining to safe handling and storage of flammable and combustible liquids, compressed gases and liquefied petroleum gas
- In 2009, Congress passed on a bipartisan basis the American Communities’ Right to Public Information Act to prevent companies’ misuse of secure information designations (such as SSI) to prevent communities from learning about plant safety practices and hazards
- Acting on a specific CSB urgent recommendation, British Petroleum (BP) created and funded, at a cost of \$30 million, the expert Baker Panel to review and improve the safety

culture at all its US refineries, leading to the seminal Baker Report used worldwide by oil and chemical companies

In the past few years, the CSB has had the most challenging and important cases before it in its history. These include a major investigation, requested and supported by bipartisan leaders in the House, of the Deepwater Horizon blowout and explosion in the Gulf. Within the past two weeks, the CSB issued its report which was the first – among all the much costlier and better resourced investigations by other groups – to accurately determine and report on why the Deepwater Horizon’s blowout preventer failed to seal the well and stop the 87-day release of oil into the Gulf. Other major CSB investigations include West Fertilizer in Texas, where a plant explosion killed 15 and devastated a town; the CSB was the first to call for stronger storage practices for ammonium nitrate, the fertilizer that caused the blast, leading Senate authorizing chairman Barbara Boxer to call the CSB “heroes” in 2013. The CSB also recently completed an investigation at the Tesoro refinery in Washington State, revealing industry-wide problems in how the integrity of key refinery equipment is assured, leading the CSB to call on EPA to require companies to use safer technologies and materials of construction. In addition, the CSB has two reports on the Chevron refinery fire in California in 2012, which endangered the lives of 19 refinery workers and sent more than 15,000 community residents to the hospital for exposure to smoke and fumes. Following the CSB investigation, California has begun a complete overhaul of its process safety regulations for refineries and chemical plants (California alone has 15 refineries) and has tripled the number of state process safety inspectors.

Finally, the CSB has begun in January 2014 a major investigation of the chemical tank rupture at Freedom Industries in West Virginia which contaminated the drinking water supply for 300,000 residents, sent hundreds to emergency rooms, and shuttered businesses and schools. The CSB has been leading the federal investigation to determine why the accident happened (including overseeing the forensic examination of all the storage tanks) and has testified twice before Congress on its initial findings. The CSB investigation will be critical for assuring the safety of chemical storage facilities located around the country near drinking water supplies or other critical infrastructure.

This year, we will hold six public meetings in communities which have been severely affected by serious chemical accidents in those areas. We are rapidly closing in on the backlog of open cases.

Despite all this activity, investigations, reports, and safety recommendations – that is, performing our congressionally mandated mission, the CSB has come under some criticism for not investigating more accidents and closing more cases.

I can understand some of the criticism. But Mr. Chairman and members of the committee, I have to tell you, as we have told IG staff, we are a very small agency charged with a huge mission of investigating far more accidents than we have the resources to tackle.

As chairperson I have focused on completing ongoing investigations which will alleviate the current backlog and allow the CSB to increase the number of deployments to accident sites in subsequent years. We've made a lot of progress.

I want to very briefly make a few observations about some of the themes you may touch upon in this hearing. First, I am unaware of *any* CSB employee who may have lost their job, grade or any pay, as a result of complaints made to the Office of Special Counsel. It just hasn't happened. Second, I have known Dr. Rosenberg and Mr. Griffon for approximately 30 years. They were former students of mine. There is no question that we have had spirited debates about chemical safety issues. However, with one exception, all of our votes on CSB reports have been unanimous. That hasn't always been easy to achieve, but it is a fact that is on the record.

Before my tenure at the CSB, in 2008 GAO issued a report on the need for the CSB to address certain management issues. Since 2010 I have worked very hard to improve the operations and management of the CSB. I reorganized lines of management to create clear lines of authority as well as accountability that were virtually non-existent before 2010. The result has been to raise the already high-quality of CSB reports and broaden the scope of the root cause investigations.

We are accomplishing our mission on a shoestring budget of just around 11 million dollars and a staff that is under fifty total employees. The bottom line is, the CSB has become a highly respected chemical accident investigative agency since its beginning in 1998. We are often told we are one of the most efficient and best bargains in government. My 42 year career in occupational safety and health has culminated in my job as chairperson. I am proud of our work at the CSB. I look forward to answering any questions you may have on the CSB's operations.