To: Fritz, Frank[Fritz.Frank@epa.gov]
From: Brinkhuis, Randall
Sent: Mon 2/10/2014 5:05:53 PM
Subject: FW: CSB Testimony on Charleston, WV Chemical Spill (from Transportation and Infrastructure Field Hearing)

Frank,

I've forwarded this to the EPA Library Network, so the folks in the Region 3 library will have gotten it. In thinking about folks I know in Region 3 your name came to mind. Please feel free to forward it to the appropriate people. (I've already forwarded it to Jim Jones, the OCSPP AA, all of OPPT, and a few people in OSWER and OW.)

Randy Brinkhuis

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From: news@csb.gov [mailto:news@csb.gov]
Sent: Monday, February 10, 2014 11:22 AM
To: Brinkhuis, Randall
Subject: CSB Testimony from Transportation and Infrastructure Field Hearing on Charleston, WV Chemical Spill

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Testimony of Chairperson Rafael Moure-Eraso

Committee on Transportation and Infrastructure

Field Hearing in Charleston, WV, February 10, 2014

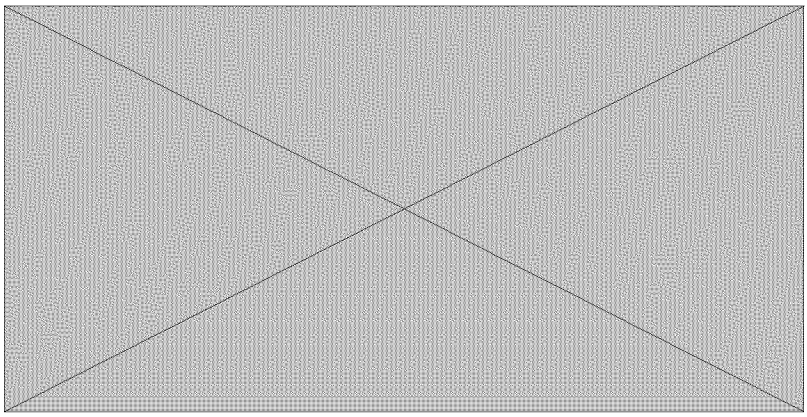

Photo of holes in Freedom Industries crude MCHM tank (photo courtesy of State of WV)

Thank you to Chairman Shuster and Ranking Member Rahall for inviting me to participate in this important hearing today. I am Rafael Moure-Eraso, Chairperson of the U.S. Chemical Safety Board or CSB.

There are a few things that people here in West Virginia will never take for granted again. Common acts such as using tap water to prepare dinner for your family or drawing a bath for your child; everyday activities that quickly became impossible for approximately 300,000 West Virginians on January 9, 2014.

Unfortunately, weeks after this incident the community is still suffering, questions remain unanswered and people are still scared to use the water.

It is clear to me, as chairperson of an independent federal agency charged with investigating industrial chemical accidents, that urgent steps are required to significantly improve the safety of facilities that handle hazardous chemicals. The chemical sector is vital to our economy, yet potentially dangerous to those who live near the thousands of facilities that process or store hazardous chemicals.

The CSB has 41 employees, half of whom are professional accident investigators with highly technical skills. Currently the CSB has a 4 member team in the field investigating this accident. Heading the team is Supervisory Investigator Johnnie Banks who is with me today.

First, I think it is important to discuss the history that the CSB has had investigating accidents in the Kanawha Valley. This is our third deployment to a major chemical incident in the valley. In 2008 two workers were fatally injured at the Bayer CropScience chemical plant in Institute when a waste tank containing the highly toxic pesticide methomyl violently exploded. Then in 2010, three incidents occurred in a thirty-three hour period at the DuPont Belle facility. There was a release of highly toxic phosgene, exposing a veteran operator and resulting in his death one day later.

Following the CSB's investigation into the Bayer and DuPont incidents the board recommended that the county, working with the state, establish a hazardous chemical release prevention program to enhance safety and optimize emergency response. The CSB recommended that the health department establish an industrial safety authority, paid for using fees assessed on the companies processing or handling potentially dangerous chemicals. As an example, we cited the successful program in California's Contra Costa County, which has an equally dense industrialchemical base. Although no regulatory program is 100% effective, the Contra Costa program has reported a dramatic decrease in serious incidents over the years without any adverse impact on employment or the business community.

State and local authorities tell us they considered the recommendation but due to a number of reasons, including funding, it has not been adopted.

The CSB's previous recommendations aimed at empowering a government agency to determine just what posed a high hazard. Perhaps qualified inspectors would have considered aging chemical storage tanks, located just upstream from a public drinking water treatment plant, to be potentially "highly hazardous" and worthy of a closer look.

I am very encouraged by the recent efforts of legislators including Representative Capito, Senator Rockefeller, and State Delegate Skinner who are all seeking to have the CSB recommendation implemented to protect West Virginia residents and businesses. I thank you all – let's work together to get this done.

All of us here today are all too aware of the recent events that occurred at Freedom Industries. On January 9, 2014, a 46,000-gallon steel tank experienced a leak of up to 10,000 gallons of 4- Methylcyclohexane methanol (MCHM) with an estimated 5.6% PPH. A significant amount of the chemical was released into the Elk River, a tributary to the Kanawha River.

Today, I am here to discuss some preliminary findings into the CSB's ongoing investigation.

The CSB's preliminary research indicates that there is a gap in the regulatory framework that fails to adequately cover above ground storage tanks.

In October of 2013, at the request of the company, Tank Engineering and Management Consultants performed a review of the tank terminals located in Charleston and Nitro. The evaluation was conducted and approved by an API-653 and 570 certified inspector, who also was credentialed as a National Association of Corrosion Engineers (NACE) Certified Corrosion Technologist. The review notes that the substances stored in tank 396 are considered "non hazardous" by the Environmental Protection Agency and are therefore not regulated by the federal Spill Prevention Control and Counter Measure Program, or SPCC rule. The review further notes that the tanks have "been maintained to some structural adequacy but not necessarily in full compliance with API-653 or EPA standards." API-653 is considered the prevailing voluntary good practice for above ground storage tank (AST) inspection, repair, alteration and repair, and was developed to establish a uniform national program that assists state and local governments in AST regulations.

It is important to note that API 653 is the very first safeguard for improving the safety and reliability of aboveground storage tanks. 653 covers basically every age related damage mechanism known, including but not limited to corrosion, brittle fracture and improper fabrication.

While EPA's SPCC rule outlines requirements for prevention and preparedness of oil discharges such regulations do not apply to tanks containing "non hazardous substances" like those found at Freedom Industries. Under existing state and federal laws these tanks, including tank 396, were not regulated by the state or federal government.

While there are laws prohibiting polluting to waterways with a spill, there are not really any clear, mandatory standards for how you site, design, maintain, and inspect non petroleum tanks at a storage facility.

The CSB has determined that the secondary containment wall - which was composed of cinder blocks and surrounded tank 396 - provided very little protection from a possible release. Company documents further show that the wall was not lined and that tank 396 rested directly on porous material including gravel and soil.

Moving forward the CSB will closely examine tank 396. We plan to complete a thorough internal inspection of the tank to determine the tank's wall thickness at the time of the incident. We will also examine tank design, materials of construction, inspection practices, state and federal oversight of similar tanks as well as existing industry best practices including those supplied by the American Petroleum Institute. The tanks in use at Freedom Industries were over one-half century old. Considering the best way to improve the safety of tanks at facilities that have similar tanks in use is an important question.

The team will also examine the response to the leak once it was discovered. We are particularly interested in the adequacy of information on MCHM and PPH hazards since the manufacturers' MSDSs repeatedly says "no data available" for numerous toxicological properties, especially chronic toxicity.

Having information readily available for the public is an issue we will be further examining in regard to ongoing reform of the Toxic Substances Control Act.

Emergency responders, local officials, regulators and public utilities must be provided the proper information in order to protect the community from potential risks.

I would like to conclude by strongly commending Senator Manchin, Senator Rockefeller and Senator Boxer for promptly introducing legislation aimed at safeguarding water supplies from chemical leaks. Modern standards are strongly needed in this area, I encourage any effort, any legislative reform to follow the basic framework of accident prevention, known as the hierarchy of controls -- which is an effectiveness ranking of techniques used to control hazards and the risk they represent. The further up the hierarchy, the more effective the risk reduction achieved. In brief, the most effective accident prevention measures typically involve what is called inherent safety. I realize that is a term that has drawn some controversy, but it is really just an industry-developed concept that focuses on safety in design. For chemical storage tanks like this, the first question that should always be asked is, do they need to be near the water supply for some reason? Unfortunately in the case of Freedom Industries, the answer would have been "no." The facility was simply a truck terminal, and its position alongside the Elk River just upstream of the water intake was a historical anomaly that had tragic consequences. The facility just did not need to be where it was. And although relocating it would have had some costs, those pale beside the costs that thousands of West Virginia residents and businesses are now paying for this disaster.

Another form of inherent safety, or safety in design, is using corrosion-resistant materials for tank construction. That is something we will need to explore further, as we determine the failure mode for this particular tank.

Moving down the hierarchy are engineering solutions that don't eliminate the risk of an accident but make it far less likely. These may include double-walled tank designs, leak detection systems, and secondary containment structures like dikes and liners. A lot of the industry has moved in this direction over the many decades since the Freedom Industries tanks were constructed.

Finally near the bottom of the hierarchy are measures such as inspections for corrosion or other potential failure mechanisms. Now inspections are absolutely essential in any sort of hazardous process operation or storage site. But I would caution that, according to the hierarchy of controls, they are among the least effective of safeguards. Hazards can be missed in inspections – we see that all the time at the CSB. The effectiveness of inspections totally depends on the skill and thoroughness of the inspector. And of course, there can be significant time intervals between inspections, and bad things can happen during those periods. So inspections are essential, but they are not a complete solution by any means. What is needed – and what I hope this legislation leads to – is a holistic approach to preventing these incidents.

Thank you for inviting me testify at today's field hearing.

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