

Freedom Industries MCHM Spill January 9, 2014

A Responder's Perspective

As everyone is now aware, Freedom Industries, situated less than one-and-one-half miles above the West Virginia American Water Company's water intake on the Elk River in Charleston, discovered a release of Crude Methylcyclohexanone Methanol (MCHM) on January 9, 2014. The impact of this release is still being felt. As one of the first state responders on site, and someone who is still involved in the remediation of the site, I appreciate this opportunity to offer my perspective on the event and a few thoughts on related issues.

After the release was discovered by investigators from the Department of Environmental Protection's Division of Air Quality (DEP), I was contacted by their supervisor and arrived at the site with Matthew Smith, a chemist from my staff, at approximately 12:15. Before Matthew and I left for the facility, Assistant Chief Rusty Joins was instructed to notify West Virginia American Water, and a water company official was at the facility when we arrived. At this time, it was apparent that the MCHM (and as we later learned, propylene glycol phenyl ether or PPH) was leaving the facility through a drain pipe that runs below the tank farm and leaking through a retaining wall that was part of the facility's secondary containment. The drain pipe was leaking through a rusted bottom into an erosion ditch about 5 to 10 feet below the containment wall, and the material that was exiting through the wall was draining directly into a rubble-filled swale that is located where an old fire suppression intake had been located. Company officials had, by this time, placed an absorbent boom at the point where material was leaking through the wall.

As we investigated the spill scene, we could see that MCHM was entering the river from both on top of, and below, an ice shelf that extended approximately 10 feet from the shore into the river. While it was impossible to identify point sources where the material was entering the river, it was clear that the above-mentioned sources were the primary routes of entry into the river for the MCHM. After reviewing the Material Safety Data Sheet (MSDS) for the MCHM, the water company official stated that he thought the problem could be addressed by adding additional activated carbon to the water plant filters. I handed the investigation over to our Environmental Enforcement group and left the site at 2:45 p.m. It was not until approximately 4:20 p.m. that I started receiving calls detailing the larger water contamination problem. Since that time, remediation efforts have continued at the site.

Remediation activities at the site have included the installation of collection sumps in the tank area, interceptor trenches, and the aggressive management of off-site water, rainwater and snowmelt. While these remediation efforts are ongoing, a number of investigations are taking place by state, federal and private parties: The U.S Chemical Safety and Hazard Investigation Board, the Federal Prosecutor's Office, the West Virginia Attorney General's Office, the bankruptcy plaintiffs and others. These investigations are, by and large, necessary, but they also slow remediation efforts in the vicinity of the tank that spilled the material. It is hoped that within a couple of weeks all of the investigations will have reached a point where unfettered access to the tank area will be possible.

An unusual issue with MCHM and PPH is their relative lack of toxicity. The problems that the release caused are very real, and there is no doubt that the "do not use" order was the right thing to do; but there is relatively little data on the chemicals. And, the data that does exist, while incomplete, shows a low rate of toxicity for all routes of exposure. In a world where deadly chemicals such as methyl isocyanate, dioxins, and others grab all the headlines, little thought is given to those less toxic, but ubiquitous, chemicals that can wreak havoc with our lives like these chemicals have. Neither of these chemicals is even considered to be hazardous materials by any state or federal laws. The Toxic Substances Control Act (TSCA) is a federal law that was designed to serve as a safety net for chemicals that were not regulated by other programs. Due to lack of support, it has never fulfilled its responsibilities; potentially harmful chemicals are not receiving the review and study that they were meant to have. Today, a bipartisan bill, the Chemical Safety Improvement Act, is struggling in the U.S .Congress. It is designed to address the shortcomings of TSCA and provide the safety net that is supposed to be provided by that law. This bill is far from perfect; but, it can be fixed, and it deserves to be fixed.

Of more immediate interest are bills currently moving through Congress and the West Virginia Legislature that will provide for the regulation of above-ground storage tanks, much as underground storage tanks are regulated. I see this as a complimentary effort to the bill mentioned above. Ensuring that above-ground storage tanks are structurally sound and have adequate secondary containment seems like simple common sense today; but, before the Freedom Industries release, the general thought process was that if the material in a given tank wasn't regulated by any of the multitude of state or federal programs, then it was probably harmless to both the public health and the environment. The fallacy of that type of assumption is clear now.

Finally, the inability of the West Virginia American Water Company to shut down its system to let the pollution pass, presented a challenge that was unforeseen by those responding to the spill. That is an issue for someone other than me to address; but, it certainly compounded the problem.

A positive note in this unfortunate episode has been the working relationships between various state and federal agencies. In particular, the relationship between DEP and the Environmental Protection Agency has been one of mutual respect and cooperation. Decisions have been made cooperatively, allowing the state and federal governments to speak with one voice to the public, as well as the responsible party.

The Freedom Industries MCHM/PPH release caused approximately 300,000 people to be without water. People reportedly became ill. Pregnant women were advised not to drink the water. But, it could have been much worse. There are far more toxic and equally-unregulated chemicals in tanks throughout the country. Let this incident be a wake-up call for the entire nation.