

Fact Pattern: Elk River Chemical Spill

Summer School Series 2014, [Environmental Law Institute](#)

Note: Minor fictional elements have been incorporated into this fact pattern for increased pedagogical value.

Freedom Industries was founded in 1992. The company has a facility near Charleston, West Virginia, which distributes chemicals used in coal production. The site includes fourteen storage tanks, which contain the chemicals, with a total capacity of 4 million gallons. It is located in an area zoned for industrial use. Freedom has an industrial stormwater general permit, which covers runoff that occurs as a result of precipitation, from the West Virginia Department of Environmental Protection (DEP). The company does not have any other environmental permits. The site on which Freedom operates has not been inspected by DEP or the U.S. Environmental Protection Agency (EPA) since 1991, when a different company owned the site. On December 31, 2013, Freedom merged with three other companies.

On January 9, 2014, approximately 10,000 gallons of crude 4-methylcyclohexanemethanol (MCHM) and polyglycol ethers leaked from a hole in one of Freedom's storage tanks. The capacity of the tank was about 48,000 gallons. MCHM is a chemical foaming agent used in coal processing. It is an organic compound and is classified as an alcohol. MCHM removes impurities in coal that contribute to pollution when the coal is combusted. It has a sweet smell similar to the smell of licorice. Exposure to MCHM can cause headaches, itching, rashes, reddened or burning skin or eyes, nausea, vomiting, and diarrhea. Polyglycol ethers are solvents based on alkyl ethers of ethylene glycol. Most are nontoxic.

The spilled chemicals seeped into the ground and contaminated the groundwater and nearby Elk River. As of 2008, Elk River is the last remaining habitat for the diamond darter. The U.S. Fish and Wildlife Service designated the darter as an endangered species on July 26, 2013. The spill was a mile upstream from West Virginia American Water's drinking water intake, treatment, and distribution center, which provides water to residents throughout the Charleston metropolitan area.

Area residents were exposed to chemical vapors that occurred as a result of the spill. Many of them began to feel ill and called DEP to report that they had noticed a sweet smell in the air, which they believed was making them sick. By January 10, nearly 700 people in the Charleston area had called the local poison control center to report symptoms, including nausea and rashes. By January 12, about 169 people had been treated at area hospitals for chemical exposure.

DEP traced the source of the chemicals to Freedom Industries. When DEP arrived to investigate the site, they discovered a pool of spilled chemicals of about 400 square feet outside the leaking storage tank. The chemicals were flowing across the floor of the containment dike in a stream several feet wide and seeping into the ground. No cleanup or containment measures were in place. Workers had noticed the spill, but no one had reported it to DEP or any other state or federal regulatory authorities.

DEP and EPA issued an advisory to residents, warning them that their water source had been contaminated. Up to 300,000 people in nine counties were told that their water was unsafe to use for drinking, cooking, bathing, or washing. The advisory lasted a total of nine days, but was lifted earlier in some locations. It is unknown whether exposure to MCHM at levels experienced in West Virginia results in long-term health or environmental impacts. According to DEP, the spill did not appear to harm any aquatic life in the Elk River or its tributaries, and no fish kills were reported in the affected area.

By January 13, nineteen lawsuits had been filed against Freedom Industries. On January 17, the company filed for bankruptcy.