

TerranearPMC Safety Share

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Today we are seeing the next generation of S&H professionals moving into prominent positions. It is great to see that the visions of the pioneers in our profession are not fading and even becoming part of mainstream America. Just look at recycling efforts around the country as well as how corporations now understand the value-added requirements to ensure worker safety and health by firmly integrating Zero Accident Philosophy within their respective business structures. I can only surmise that those that came before us; people like Alice Hamilton (physician and pioneer of occupational illnesses) and Frances Perkins (longest serving US Secretary of Labor and first woman appointed to US Cabinet) would be proud.

However, one of the things I notice is that, while our technical ability to apply worker S&H techniques has increased, many of the historical events that were the impetus for innovation for both regulatory and technical advances seem to be fading. Many have never heard of Bhopal, India or the Gauley Mountain silica cases at Hawk's Nest, WV. Quite possibly in the not-so-distant future, Chernobyl and the Space Shuttle disasters as well as the 2004 tsunami in the Indian Ocean may be forgotten or at least only discussed in learning institutions.

In today's profession of ES&H, many are - or have been - employed at Superfund Sites. Such locations were first established in 1980, when the United States promulgated the Comprehensive Environmental Response, Compensation, and Liability Act otherwise known as CERCLA. Such sites are often termed Superfund sites as they require a long-term response to the clean up hazardous material contamination. And because of the costs associated with clean-up efforts, the government has set aside a large portion of funds – hence the term, “Superfund.” CERCLA authorized the United States Environmental Protection Agency (EPA) to create a list of such locations, which are placed on the National Priorities List (NPL). As of February 27, 2014, there were 1322 Superfund sites on the National Priorities List – and the state with the most Superfund sites is New Jersey with 116. As of February 27, 2014, 375 sites have been cleaned up and removed from the list.

One of the first superfund sites was Love Canal. A project that heightened public awareness of the grave and imminent perils of unregulated hazardous waste dumping in communities.

Love Canal encompassed 36 square blocks in the LaSalle section of Niagara Falls, New York. In the early 1890s, the entrepreneur, William T. Love, began construction of a canal system that would operate as a shipping lane to bypass Niagara Falls. Unfortunately, his vision was never realized as investors abandoned the project, causing the undertaking to fold. Soon, the canal filled with water and local children would use the area as a swimming hole. In the 1920s, the city of Niagara Falls used it for a garbage pit and then sold it to Hooker Chemical Company to use for the disposal of chemical waste.

The dumpsite remained in operation until 1953 when it was covered with soil and seeded. Hooker Chemicals then sold the property back to Niagara Falls for one dollar. Niagara Falls developed the



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area, adding homes and schools. Shortly after, oil slicks developed in people's yards while black goo coagulated in basements (data showed unacceptable levels of many types of toxic vapors, such as benzene, were the components emanating from the basements). Women began experiencing high rates of miscarriages and in the 1970s, the Love Canal Homeowners Association discovered that 56% of the children that were born between 1974 and 1978 suffered from at least one type of birth defect. EPA studies would later show that 33% of residents had chromosomal damage and the National Research Council would prove an excess of seizures, learning problems, hyperactivity, eye irritation, skin rashes, abdominal pain, and other abnormalities in children that lived in the area.

A major contributing factor for contaminant exposures was because, at that time, standards at landfills to prevent contaminant migration did not require the installation of a liner to prevent leaching. Eventually, 800 families were relocated and reimbursed for their homes under the Superfund Act. The most toxic area of Love Canal was reburied and cordoned off with barbed wire fencing.

On June 4, 1980, the state government founded the Love Canal Area Revitalization Agency (LCARA) to restore the area. It has been calculated that 248 separate chemicals, including 130 pounds of dioxin, were unearthed from the canal.

Love Canal was not an isolated case as the newly formed EPA suggested the possibility of hundreds of similar dumpsites located throughout the United States. President Carter declared that discovering these dumpsites was "one of the grimmest discoveries of the modern era." Had the residents of Love Canal been aware that they were residing on toxic chemicals, most would not have moved there in the first place. And, because ownership of waste sites can change over the years, determining liability can become a difficult process - a problem that would be addressed by CERCLA, or the Superfund Act.

In 2004, federal officials announced that the Superfund cleanup at Love Canal was completed – even though the actual cleanup ended years earlier. The entire process took 21 years and \$400 million. About 260 homes north of the canal have been renovated and sold to new owners, and about 150 acres east of the canal have been sold to commercial developers for light industrial uses. In total, 950 families had been evacuated. The site was removed from the Superfund list.

Love Canal, along with other sites (i.e. Times Beach, Missouri and the Valley of the Drums, Kentucky), significantly contributed to the passing of the CERCLA regulation and has since become the symbol for what happens when hazardous industrial products are not confined to the workplace and either migrate offsite to local communities or inadvertently sold to unsuspecting buyers where contaminated lands are transferred and become potential health hazards to those who are innocent of past waste disposal practices.

The people are what matter to government, and a government should aim to give all the people under its jurisdiction the best possible life.

Frances Perkins (US Secretary of Labor)