CHAPTER 8. HAZARDOUS MATERIALS

A general definition of hazardous material is: A substance or combination of substances that because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious, irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, disposed of or otherwise managed.

The US Department of Transportation, U.S. Environmental Protection Agency, and the Occupational Health and Safety Administration all have responsibilities in regards to hazardous materials and waste. Presented below are the various definitions and general responsibilities of each of the agencies.

The U.S. Department of Transportation, which has control over transported hazardous materials, uses the following definition: "Hazardous material" means a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has designated as hazardous under section 5103 of Federal hazardous materials transportation law (49 U.S.C. 5103). The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (see 49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in Part 173 of subchapter C of this chapter. The U.S. DOT has nine classes of hazardous material:

Table 8.1 Hazardous Materials

Class	Materials
Explosives	Flammable Gasses; Non-Flammable Compressed Gasses
Compressed Gasses	Poisonous Gasses
Flammable Liquids	Flammable (Flash Point Below 141 degrees); Combustible (Flash Point 141 degrees – 200 degrees)
Flammable Solids	Spontaneously Combustible; Dangerous When Wet
Oxidizers and Organic Peroxides	Oxidizer; Organic Peroxide

Toxic Materials	Material that is Poisonous; Infectious Agents
Radioactive Material	
Corrosive Material:	Destruction of Human Skin; Corrode Steel at a Rate of 0.25
Miscellaneous	

The U.S. Environmental Protection Agency (EPA) also has responsibility for hazardous materials, chemicals, and wastes that have the potential to be released into the environment through stationary facilities. The EPA addresses through the Resource Conservation and Recovery Act (RCRA), the need for facilities with hazardous waste substances to store containers in some kind of containment system. Stationary containers, such as tanks, as well as portable storage containers, such as 55-gallon drums, are required to have a system that will protect the environment from this waste if a leak were to occur.

Hazardous waste regulations appear in Title 40 of the U.S. Code of Federal Regulations. Portable container containment is addressed under Subpart I, Use and Management of Containers (EPA 40 CFR 264.175). Facilities dealing with the storage of hazardous materials may also be required to have containment if they are to meet the Uniform Fire Code (UFC) standards. Within the UFC standards, Section 80, Division III refers to Hazardous Materials Storage Requirements pertaining to containers and tanks and Division IV refers to Spill Containment with regard to hazardous materials.

The Emergency Planning and Community Right-to-Know Act (EPCRA) requires certain regulated entities to report information about hazardous chemicals and substances at their facilities to Federal, state, and local authorities. The objective is to improve the facilities', or government agency's ability to plan for and respond to chemical emergencies, and to give citizens information about chemicals present in their communities.

The President has issued Executive Orders to Federal agencies that mandate their compliance with certain EPCRA requirements. Part of EPA's mission is to ensure that Federal facilities comply with these requirements. Sections 301 and 303 of EPCRA mandate the creation of two organizations; The State Emergency Response Commission (SERC) and the Local Emergency Planning Committee (LEPC). Sections 311-312 of EPCRA require facilities to submit material safety data sheets or Tier II forms (lists of hazardous chemicals on-site (above threshold quantities)) to SERC's, LEPC's, and local fire departments.

In addition to EPCRA, there is a Risk Management Program (RMP.) When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The RMP Rule was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n):

- Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases;

- Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and

- Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g. the fire department) should an accident occur.

By June 21, 1999, a summary of the facility's risk management program (known as a "Risk Management Plan" or "RMP") was to have been submitted to EPA, which will make the information publicly available. The plans must be revised and resubmitted every five years.

The Risk Management Program is about reducing chemical risk at the local level. This information helps local fire, police, and emergency response personnel (who must prepare for and respond to chemical accidents), and is useful to citizens in understanding the chemical hazards in communities. EPA anticipates that making the RMPs available to the public stimulates communication between industry and the public to improve accident prevention and emergency response practices at the local level.

The Occupational Safety and Health Administration (OSHA), established under the Department of Labor by the OSHA Act of 1970, regulates the storage and use of toxic and hazardous substances as they relate to worker health and safety. OSHA regulations are found in Title 29 of the Code of Federal Regulations (CFR), Part 1910, Subpart H.

According to the U.S. EPA, there are 53 facilities in the Facility Registry System (FRS) for the zip code 82637 which is the Glenrock area. There are 114 facilities in the FRS for the 82633 zip code, which is the Douglas area. Facilities listed in this system are subject to one or more of EPA’s regulatory programs—not all of these facilities handle hazardous materials or generate hazardous waste, but many of them do. Many of these facilities are related to energy production.

According to data from the Environmental Protection Agency posted by the Right to Know Network (www.rtknet.org), there are five active and two deregulated RMP

facilities in the Douglas area. Together, these facilities have a total of 181,000 pounds of toxic chemicals in processes and a total of 55,566,200 pounds of flammable chemicals in processes. There has been one 5-year accident causing one injury and no reported property damage. There are two active and one deregulated RMP facilities in the Glenrock area. No additional information about toxic or flammable chemicals in processes was provided.

History

According to the National Response Center, 39 hazardous materials incidents occurred in Converse County between January 1, 2005 and December 31, 2010. This data indicates that the two most common causes of hazmat incidents in the county are equipment failure and derailments. The equipment failures typically involved pipeline ruptures or leaks in well heads and storage tanks. Crude, diesel, fuel, and hydraulic oil were the most common materials spilled. Others include produced water, salt water, condensate, battery acid, methanol, butane, bentonite, and coal.

Impacts

As mentioned above, multiple hazardous material spills occur every year. The NRC data alone suggests that about six events happen per year, for a 100% chance of at least one hazardous materials incident occurring in any given year. There are not readily available data on response and cleanup costs. It is estimated that the costs are many tens of thousands of dollars per year.

Hazardous material spills will continue in Wyoming and the rest of the nation. There are some facilities, however, that contain extremely hazardous substances. Those are the facilities that are required to generate Risk Management Plans. An accident resulting in the release of chemicals from those facilities could pose a significant problem to local jurisdictions and the State of Wyoming.

The state of Wyoming had 93 RMP facilities as of August 28, 2009. (www.rtknet.org) The amount of property damage from 5-year accidents across the state at that time was $10,116,000. As a rough measure, this figure divides out to $109,000 per facility. Converse County has seven RMP facilities so applying this per facility figure to the seven facilities in Converse County would produce a damage estimate of $763,000 in property damage over a five-year period. Of course the facilities in the county may not have this level or spills or releases but just one very serious event could cost in the millions of dollars when clean-up, property and resource damage, and interruption of production and commerce are factored in.

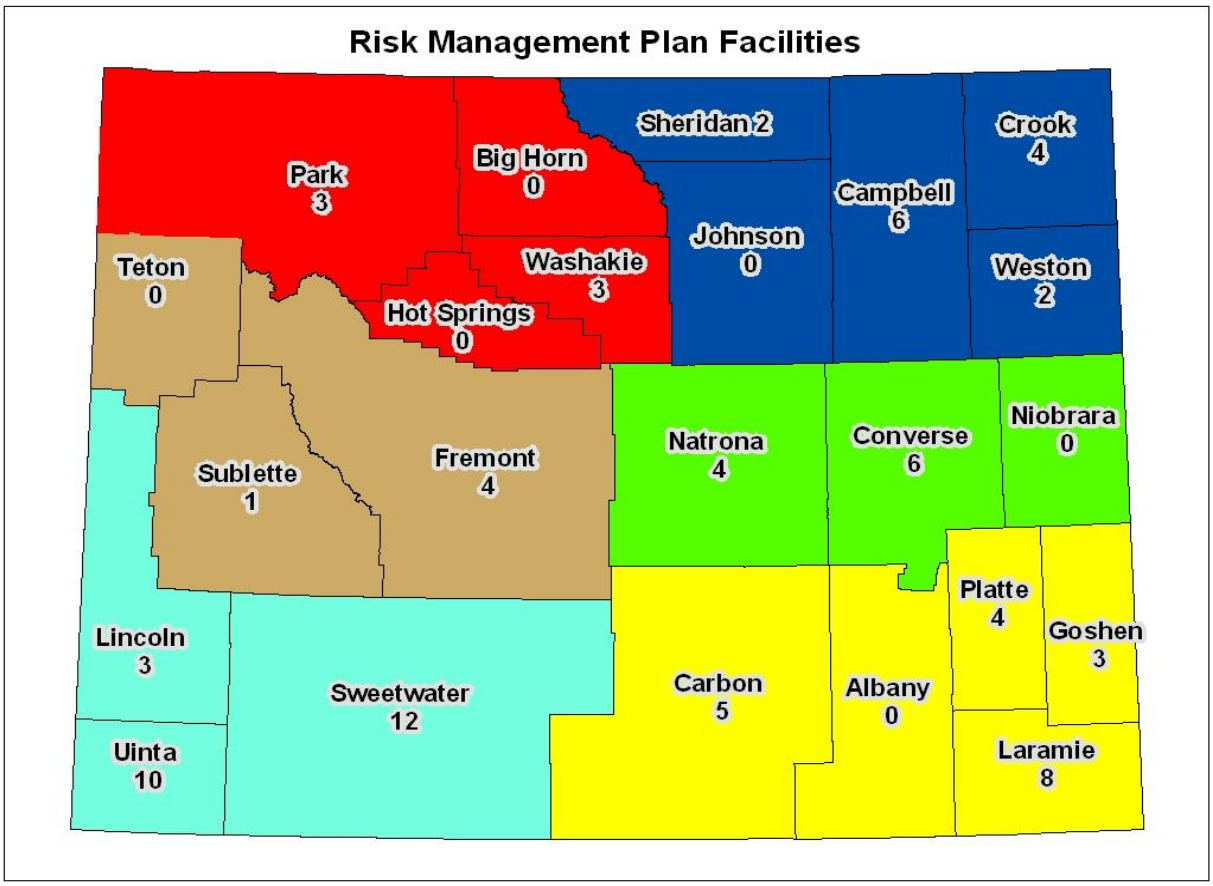

Figure 8.1 Risk Management Plan facilities in Wyoming

(Wyoming State Hazard Mitigation Plan)

SUMMARY

PROPERTY AFFECTED: Low
POPULATION AFFECTED: Medium
PROBABILITY: High
JURISDICTIONS AFFECTED: All