IX. Hazardous Materials and Waste

A general definition of hazardous material is: A substance or combination of substances which 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:

- Explosives
- Compressed gasses: flammable Gasses, non-flammable compressed gasses, poisonous gasses;
- Flammable liquids: flammable (flash point below 141 degrees), combustible (flash point 141 degrees – 200 degrees);
- Flammable solids: 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 inches per year; and
- Miscellaneous.

The U.S. Environmental Protection Agency also has responsibility for hazardous materials, chemicals, and wastes that have the potential to be released into the environment through stationary facilities. The Environmental Protection Agency (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 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. 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 Risk Management Program Rule (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.

Since June 21, 1999, a summary of the facility's risk management program (known as a "Risk Management Plan" or "RMP") was to be submitted to EPA, making the information publicly available. The plans must be revised and resubmitted every five years. A summary of the RMP facilities by county can be reviewed at Figure 9.1. A listing of the facilities present in each county is presented in Table 9.2.

The RMP 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.

History

According to the Wyoming State Emergency Response Commission 2004 Annual Report, there were a total of 5 hazardous material spills reported in Crook County in 2003. There were 3 reported spills in 2004. Comparing the Wyoming State Emergency Response Commission 2003 Annual Report with the 2004 annual report, the number of facilities reporting hazardous materials decreased from 93 in 2003 to 84 in 2004. The majority of the spills statewide in both years were related to petroleum production. This data was not updated with the 2011 SERC Annual Report.

In 2010 three hazardous materials incidents were responded to by local firefighters, two of which the Regional Response Team (RRT) were called upon to take over. In 2011 a chlorine gas escape resulted in both local team and RRT response. This was the first non-flammable incident in over 5 years, illustrating the need of trained responders in all areas of HAZMAT response.

Additional hazardous materials incident data post-2004 was obtained from the National Response Center (NRC). This data, which includes seven separate incidents, is summarized in Table 9.1. Most incidents occurred near Moorcroft. Incident types varied among mobile, fixed, pipeline, railroad, and railroad non-release. The "Incident Details" column provides a transcript of each event as reported to the NRC. No incidents in Crook County were reported to the NRC in 2005 or 2011.

Table 9.1 Hazardous Materials Incidents in Crook County

Date	Location (nearest city)	Type of Incident	Incident Details
5/24/2010	Moorcroft	Mobile	Caller reported a tanker truck crashed on highway and lost 5,000 gallons of gasoline.
9/12/2009	Colony	Railroad Non-Release	Caller stated there is a multiple locomotive and single car derailment due to unknown cause. Caller stated there are 2 known locomotives that are derailed, and 1 car that was destroyed. Caller stated the locomotives side swiped the car causing the derailment.
5/12/2008		Fixed	Caller stated there was a discharge from a wellhead due to unknown causes at this time. A bolt on the casing failed but they are unsure why.
12/29/2007	Sundance	Mobile	The caller is reporting a release of materials

Table 9.1 Hazardous Materials Incidents in Crook County			
Date	**Location (nearest city)**	**Type of Incident**	**Incident Details**
			onto the ground from a crane due to unknown causes at this time. The caller stated that the crane overturned with the driver inside while driving pilings into the railroad resulting in a fatality.
8/2/2007	Moorcroft	Railroad	Caller reported a west bound empty coal train struck an occupied vehicle at a grade crossing. There was 1 injury and 1 fatality due to the incident.
1/26/2007	Moorcroft	Railroad Non-Release	Caller reported that the responsible party allowed a septic tank truck to dump raw sewage onto the ground.
4/12/2006	Moorcroft	Pipeline	Caller stated three days ago she discovered oil running onto her property from her neighboring property. She stated the material is spilling into the reservoir at the bottom of her property. She believes the material is coming from a pipeline which runs through the local residences. Several dead ducks have been found in the reservoir with a black material on them. Called stated she has 42 cows and calves that drink from the reservoir. There is also an abundant amount of wildlife in the area that feed from the reservoir. She is also very concerned for their well water which may be affected.

Impacts

As mentioned above, some hazardous material spills occur almost every 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.

Future Impacts

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.

Life safety is a concern related to transportation incidents that can occur on the state and interstate highways and Burlington Northern/Santa Fe Railroad corridors in the County. I-90, state highways, and the railroads all serve as major corridors for transporting hazardous materials. According to the Crook County HazMat Response Plan, Crook County has roughly 50 miles of railroad track. The Burlington Northern Santa Fe Railroad averages nearly150 trains per day traveling through Crook County. Approximately20 percent of these trains carry some hazardous materials cargo.

The most prevalent type of hazardous material transported appears to be combustible liquids. Commonly shipped hazardous materials include: gasoline and diesel fuel, paint related material, phosphoric acid, propane, and wet batteries, to name a few. Radiological materials are also transported on Crook County roads but amounts are not known. Future uranium mining will greatly increase the amount of radiological material transported on both County roads and the railroad.

Crook County has over 300 known spur or feeder lines in the western portions of the county. Numerous major lines also traverse the county. Crude oil is the primary commodity transported but natural gas, refined product (gasoline), and methane are also transported in smaller amounts. A LNG pipeline is planned for construction in the eastern portion of the County. It is planned as a 16" pipeline which will be the largest pipeline in both diameter and length within the County.

A map showing the distribution of Risk Management Plan facilities is shown on the Figure below. A listing of the facilities present in Crook County is presented in Table 9.2 below. The chemicals that are extremely hazardous in Crook County as a result of the RMP facilities are presented in Table 9.3 below. No additional information is available for this report because of Homeland Security concerns.

In the event of the release of a hazardous substance in Crook County, the impact to citizens will vary based on development, density of population, the substance released, and the substance's method of release and chemical properties.

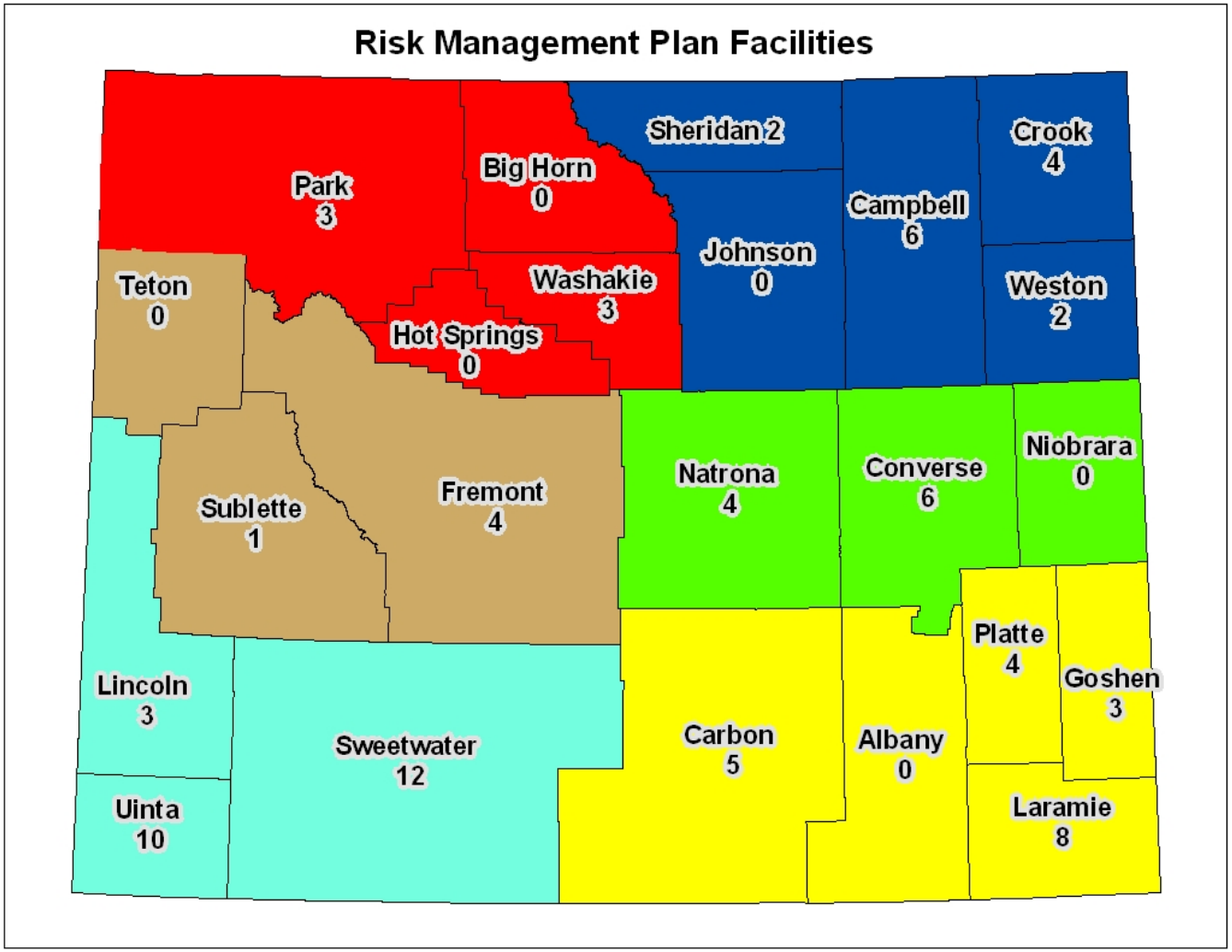

Figure 9.1 Risk Management Plan Facilities in Wyoming.

Table 9.2 Risk Management Plan (RMP) Facilities in Crook County		
County	**Site**	**Hazardous Material Type**
Crook	Donkey Creek BG Mix Tanks	Flammable
Crook	Madison Pump Station	Chlorine
Crook	Raudsep BG Mix Tank	Flammable
Crook	Reynolds BF Mix Tank	Flammable

Table 9.3 Hazardous Chemicals By County	
COUNTY	**CHEMICAL**
Crook	Crude Oil

Summary

PROPERTY AFFECTED: Low
POPULATION AFFECTED: Medium
PROBABILITY: High
JURISDICTION AFFECTED: County