

# Hazardous Materials Spills

## **General Information**

All communities located near Washington state's major transportation corridors (land, air or sea) are subject to the probability of a significant hazardous materials release. Hazardous materials are transported over or near numerous bodies of waters, wetlands, environmentally sensitive areas, and through numerous densely populated centers. Natural disasters like floods and earthquakes might also result in spills. Illegal drug labs and dumping present yet another concern. Recent history shows an increase in the national threat from terrorist use of hazardous materials. The combination of possible sources of exposure to our sizable population and workforce presents complex problems to responders. It is difficult to find a home, school, hospital or place of business in our modern society that is not vulnerable to the possibility of a hazardous materials release.

Washington state's deepwater seaports, international airports and local highways handle cargoes from all over the world. Fuel pipelines run through the state from Whatcom County toward Portland carrying jet fuels, diesel, gasoline, etc. These lines have "spurs" going to Harbor Island and Sea-Tac Airport. During a natural disaster, the number of spills that can be expected from these sources will be much greater than usual.

## **Vulnerability**

Primarily, spills happen in the course of routine daily commerce anywhere hazardous materials are handled or transported. There are over 3000 facilities with hazardous materials located in the City of Seattle alone that are regulated under the fire code. Areas with high concentrations of hazardous materials usage include Harbor Island, the Duwamish Corridor, Redmond and the Kent Valley. Business types that commonly use hazardous materials locally include: hospitals, schools, metal plating and finishing, the aircraft industry, public utilities, cold storage companies, the fuel industries, the communication industry, chemical distributors, research, and high technology firms. Each of these facilities is required to maintain plans for warning, notification, evacuation and site security under various regulations. The majority of releases that occur during regular commerce happen at fixed facilities.

Harbor Island and western Washington have very large fuel storage areas. The Harbor Island area is vulnerable to earthquake damage and subsequent fuel spills into the Duwamish River and Elliot Bay. These may occur from above ground storage, pipelines or fuel transfers from tankers. Events would produce severe fire hazards and enormous environmental damages to fish, wildlife and commerce.

While the majority of incidents tend to involve petroleum products, a significant number involve extremely hazardous materials. Extremely hazardous materials are those materials which may do irreversible damage or cause death to people or harm the environment when released or used outside their intended use. Examples are: ammonia, chlorine and sulfuric acid.

Approximately 200 local facilities with extremely hazardous materials report their inventories to the county under SARA Title III provisions.

Efforts continue to increase the compliance rate and the education level of local facilities. In addition, many events are not reported or go undetected.

Hazardous materials may also be released as a secondary result of natural disasters like earthquakes and floods. In either case, buildings or vehicles can release their hazardous materials inventories when they are structurally compromised or are involved in traffic accidents. Pipelines can be exposed or ruptured from collapsed embankments, road washouts, bridge collapses, and fractures in roadways.

The threat from biological or radiological releases currently primarily exists from their infrequent transportation through the state. With the closing of the University of Washington research reactor in 1985, the only radiological sources in use in the county are for medical purposes. The same can be said for biological samples. No record of a release of these biological materials (beyond sewage) could be found in available files.

### **Effects**

Hazardous materials spills might cause the short term or long term evacuation of an affected area. Depending on the nature of the spill and local weather conditions, residences, businesses, hospitals, schools, nursing homes, the Port of Seattle and roadways may be evacuated or closed to traffic until cleanup can be effected. When spills occur as part of an earthquake, this may compound the county's ability to move response resources and resume commerce. A mass casualty incident resulting from a hazardous materials release would seriously impact the county's medical response community.

### **Conclusion**

An Area Contingency Plan was developed by the State Department of Ecology in cooperation with Federal, State and Local agencies. The purpose of the plan is "to provide orderly implementation of response actions to protect the people and natural resources of the states of Washington, Oregon, and Idaho from the impacts of oil or hazardous substances spills". The plan accounts for potential problems from vessels, offshore facilities, onshore facilities or other sources. The Environmental Protection Agency has responsibility for all spills in inland waters. The United States Coast Guard has responsibility for all spills in coastal waters.