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Central Water Treatment Plant

Company Information

St. Louis County Water Company, an investor-owned utility, has delivered quality drinking water to its customers for nearly 100 years. The water produced by County Water meets all state and federal standards for safe drinking water. The service population includes over one million people and more than 16,000 businesses in St. Louis County and portions of northern Jefferson County. The St. Louis County Water Company Central Water Treatment Plant, located on the Missouri River in Maryland Heights, has the capacity to produce 217 million gallons of drinking water per day.

Risk Management Planning

The Environmental Protection Agency (EPA) created a regulation called Risk Management Program (RMP) as required by an amendment to the Clean Air Act. The RMP rule requires facilities with certain quantities of chemicals and other regulated substances on a specific EPA list to disclose certain information. Those facilities must make publicly available their emergency response programs, which include plans to prevent and minimize the effect of incidents; five-year accident histories for the listed chemicals; and "worst-case" and "alternative case" scenarios related to potential releases. This information will be written in a risk management plan. The scenarios take into account potential quantities released, weather, wind direction and wind speed. The worst case scenarios assume complete failure of all safety controls and systems and no emergency response. It is important to note that these scenarios are highly unlikely. The deadline for submitting risk management plans to the EPA is June 21, 1999. The St. Louis County Water Company Central Water Treatment Plant has only one of the 140 chemicals identified by the EPA above the threshold quantity.

The St. Louis County Water Company Central Water Treatment Plant has compiled its accident release history for chlorine, the RMP-listed chemical, for the last five years. According to the RMP rule, the accident release history must include all accidental releases from covered processes that resulted in death, evacuations, shelter-in-place, or environmental damage. Accidental release as defined by the EPA means an unanticipated emission of a regulated chemical into the environment from a stationary source. The five-year accident history, as defined by the RMP, for the St. Louis County Water Company Central Water Treatment Plant is as follows:

YEAR	1994	1995	1996	1997	1998
Number of RMP Releases	0	0	0	0	0

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Example RMP Accidental Release Scenarios for the St. Louis Water Company Central Water Treatment Plant

The RMP rule defines a worst case incident as the hypothetical release of the entire container of an RMP-listed material within 10 minutes. It assumes weather conditions that would maximize its impact, complete failure of all safety controls and systems, and no emergency response. Because these worst case scenarios are extremely unlikely, the RMP rule also provides for the development of an alternative release scenario. These alternative release scenarios depict a more credible release of an RMP-listed chemical and consider safety systems that are in place.

Chemical	About the Chemical	Accident Prevention In-Place	Example Event	Scenario	Distance of Concern (1)	Emergency Response Measures
Chlorine	Chlorine is a greenish-yellow gas with a pungent, irritating odor, similar to bleach. Chlorine exists as a gas at ambient temperature and pressure, but is liquefied when kept under pressure in our process equipment. St. Louis County Water Company uses chlorine as a disinfectant in the water treatment process.	Plant operating personnel are trained and certified to use chlorine safely. Chlorine is transported, stored and dispensed from approved heavy-wall steel cylinders and railroad tank cars. Process equipment on the rail car system, including remote shut-off valves, excess flow and safety relief valves, is designed to isolate and minimize releases. Continuous monitoring of process conditions is performed. Safety controls such as leak detectors, warning lights and alarms are in place. Approved operating and maintenance procedures are followed. Facility is manned and monitored 24 hours per day.	Alternative Release Scenario	Failure of valve in tubing that transfers chlorine from the storage cylinder to the water chlorination system causing a release of 140 lbs. over 10 minutes.	0.1 miles	Proper design, operation, and maintenance of the chlorination system significantly decreases the likelihood of an accidental release of chlorine. St. Louis County Water Company works closely with the Local Emergency Planning Committee, local fire departments, St. Louis County Hazardous Materials Emergency Response Team and other community responders to be prepared in the event of a release of chlorine. Additional emergency preparedness and response measures include: Early-warning, highly sensitive leak detection equipment. Detailed emergency response plan. In-house trained emergency responders. Protective gear and chlorine container repair kit on site. Emergency notification system. Response drills performed regularly with community emergency responders.
Chlorine	As Above	As Above	Worst Case Release Scenario	Instantaneous failure of chlorine tank wall causing total release of a full tank car (55 tons) in 10 minutes in worst possible weather conditions (no wind, low humidity).	9.9 miles	As Above

(1) RMP Distance of Concern: The distance a toxic vapor cloud from an accidental release will travel before dissipating to the point that serious injuries from short-term exposures will no longer occur. Data developed by EPA or computer models were used to simulate conditions and arrive at the distance.

The sharing of this information is intended to improve community understanding of local industries and promote an informed dialogue on their chemical accident prevention practices. It is not a prediction of the probability that any scenarios discussed will ever occur. The information is based upon the Risk Management Plan being prepared for the St. Louis County Water Company Central Water Treatment Plant. Descriptions in the final Risk Management Plan submitted in June, 1999 may differ from these descriptions due to revisions. Revised: 5/24/99

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