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CITY OF ST. LOUIS WATER DIVISION

CHAIN OF ROCKS
WATER TREATMENT PLANT

Company Information

The Water Division is a branch of the City of St. Louis Department of Public Utilities. We have proudly invested in and served the greater St. Louis Metropolitan area since 1835. Each year, the Water Division's two water treatment plants provide over 50 billion gallons of drinking water to City residents and businesses. While all water produced by the Water Division meets and exceeds all state and federal regulations for safe drinking water, we continuously strive to achieve higher levels of customer satisfaction with the quality of the water we supply.

The Water Division's Chain of Rocks Water Treatment Plant has been providing safe, clean drinking water to City customers since 1894. The Chain of Rocks Plant is located on the Mississippi River near the Chain of Rocks Bridge. On average, the Chain of Rocks Water Treatment Plant produces approximately 100 million gallons of drinking water for its commercial and residential customers each day.

Risk Management Planning

The Environmental Protection Agency (EPA) Risk Management Plan (RMP) Rule created a regulation called Risk Management Program 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 Chain of Rocks Water Treatment Plant uses only one of the 140 chemicals identified by the EPA above the threshold quantity.

The City of St. Louis Water Division Chain of Rocks Water Treatment Plant has compiled its accident release history for 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 injuries, death, evacuations, sheltering-in-place, property damage 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 Chain of Rocks Plant is as follows:

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

Example RMP Accidental Release Scenarios for the City of St. Louis Water Division Chain of Rocks 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) (2)	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 it is liquefied when kept under pressure in our process equipment. The Chain of Rocks Water Treatment Plant uses chlorine as a disinfectant in the water treatment process. Chlorine is used in 98% of all US water supplies that disinfect. Water supply disinfection has virtually eliminated incidences of cholera, typhoid and dysentery and is credited with increasing American's life expectancy by more than 50%.	Chlorine is transported, stored and dispensed from a DOT approved heavy-wall steel railroad tank car. Chlorine process equipment is designed and operated to minimize accidental releases. Process provides for emergency equipment shutdown and remote valves to isolate and limit releases. Process is monitored continuously and plant is manned 24 hours a day, 7 days a week. Plant operating personnel are State-licensed, trained and qualified to operate chlorine process equipment safely. Approved operating and maintenance procedures are implemented and maintained.	Alternative Release Scenario	Failure of ¾ inch tubing that transfers chlorine from the storage tank car to the water chlorination system causing a 17.4 ton release over 30 minutes under worst case weather conditions (no wind, low humidity.)	0.5 miles	Early-warning, highly sensitive leak detection equipment. Written detailed emergency response plans. Emergency notification system. Remote shutdown equipment. Trained in-house emergency responders. Emergency response drills. Protective gear and chlorine container repair kits on site.
Chlorine	As Above	As Above	Worst Case Release Scenario	Instantaneous failure of chlorine tank car wall causing a total release of full tank car (55 tons) in 10 minutes under worst-case weather conditions (no wind, low humidity.) Complete failure of all safety controls and systems. No emergency response.	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.

(2) **Currently, the City of St. Louis Water Division is undergoing a multimillion dollar construction project at the Chain of Rocks Water Treatment Plant that will reduce the quantity of chlorine stored on-site and provide additional layers of protection to the chlorine process. The new chlorine facility is scheduled to be on-line in January 2000. The new protection measures will further reduce the RMP Designated Distances of Concern.**

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 City of St. Louis Water Division Chain of Rocks Water Treatment Plant. Descriptions in the final Risk Management Plan submitted in June 1999 may differ from these descriptions due to revisions.

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