

Another system is the Self Contained or Total Containment System. A company by the name of TGO Technologies has developed a totally self-contained containment system that not only protects your employees but the environment as well. Where major engineering and construction are required to install a scrubber system, this is not needed, but it is recommended, to install a total containment system. The cost of a system of this type is close to half the cost of a scrubber system and will take half of the time to install with far less operational training and maintenance.

The ChlorTainer, as it is called, is a self-contained system that requires no pumps, scrubbers, fans, or caustic circulation equipment and because of this, very little maintenance. It is defined as passive for purposes of the RMP and meets with Article 80 of the Uniform Fire Code.

Containment vs. scrubber

Installing the containment vessel is a fairly simple job and requires very little space when compared to a scrubber system. Such a unit can be installed inside a ventilated room or outside with some type of overhead protection and comes equipped with either a permanently placed fixed cylinder loader (as in the picture), or a movable port-a-loader. There are multiple door designs available, which can be operated manually, electronically, or pneumatically. The system can be connected to several different safety devices such as SCADA, chlorine detection, or even seismic detection. It features a high-pressure containment vessel into which a 150-pound or a one-ton chlorine gas cylinder is rolled. When the cylinder is loaded, the vessel is sealed. Through a

vacuum regulator connected to a fail-safe actuator, chlorine is processed from within the vessel. At any time should the cylinder leak, the chlorine gas is contained within the vessel and processed at a normal flow rate. No hazardous waste is ever generated because all of the gas is used. Each vessel is built to withstand the maximum anticipated release pressure of a failed chlorine gas cylinder and is designed for 20 years of service before requiring any repair. The system comes complete with a scale system with 12-inch weight indicator dial, rollers, reseating pressure relief valve, a nitrogen gas operated fail-safe valve, pressure vacuum gauge, cylinder loading system, rails and rollers.

The system does not require backup emergency power to contain a gas release. Elimination of the caustic scrubbing avoids a hazardous waste generation classification and it removes the dangers that are associated with hazardous waste handling.

The Leavenworth Water Department was the first water system in Kansas to install this system. Don Murphy, manager of the



The photo above shows Leavenworth Water Department Operator Mike Domnick tightening bolts on the door of the containment vessel. Mike's comment is that this is the hardest part of the operation, by which he means the entire process is relatively easy.

Leavenworth Water Department, said that some of the main reasons for going to the ChlorTainer system were the lower cost and ease of installation. Don said the cost was close to half of the cost of a scrubber system when you add in the needed maintenance and training of personnel such systems require. The water department installed two sets of the one-ton containment systems, one set in each of the department's water plants.

If you are looking at upgrading your water/wastewater plant or building a new plant, you may want to look into this type of chlorine containment system.

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