

## Center for Medical Science Chemical Kill System

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**Boston, MA** - Practical Applications, Inc. (PAI), a leading environmental company, recently commissioned the chemical/biological decontamination system (chemical kill system) at the Center For Medical Science in Albany, NY.

The Practical Applications, Inc. (PAI) Model# 1792 Chemical Kill System is designed to chemically treat waste water generated by the Center for Medical Science (CMS) laboratory prior to sewer discharge. This model consists of two batch waste water treatment tanks with secondary containment, two mixers, four LMI reagent pumps, two chemical storage tanks with secondary containment, two ABB ORP probes, two ABB pH probes, one residual chlorine analyzer, and one ABB effluent electromagnetic flow meter. Centralized system control is provided by the main control panel mounted outside the containment area. This control panel provides all required operator interactions and the pump station for the chlorine analyzer.



CMS System Tanks

The chemical kill system is designed to treat laboratory waste water for CMS's BSL-3 facility. The treatment uses chemical dosing to kill bacteria, viruses, and spores that may be discharged from the laboratory equipment including sinks, autoclaves, glass washers and showers. Commissioning was achieved using a modified/deactivated strain of anthrax.

Capable of treating up to 28,000 gallons of waste water per day, the system is intended to operate automatically and is a duplex system, utilizing two complete treatment tanks so there is always one tank online to receive waste water. A centralized main control panel provides system control components for both tanks. Operator interaction is limited to daily inspections and maintenance procedures. The system will automatically batch process and discharge biologically inactive waste water. A vacuum collection system will gravity drain the waste water into the system. The chemical kill system enters treatment mode once the batch tank reaches an operator specified level. The waste water is mixed with chemical reagents until the ORP and pH set points are reached. The system then maintains that set point for a specific dwell time before discharging the contents to the sewer. The tank discharge is monitored for flow and residual chlorine concentration. PAI has incorporated its expert knowledge into the system's computerized control such that numerous parameters are monitored to provide safe operation and predictive maintenance.



CMS System Control Station

PAI has been designing, building, and operating waste water treatment systems since 1994. Our systems are designed and built by operating engineers and technicians who understand that an effective system must ensure performance while remaining economical to operate and maintain.

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