

Building Fumigation – Chlorine Dioxide Delivery

Trenton, NJ, Processing and Distribution Center

This is one in a series of Fact Sheets providing information on the anthrax decontamination activities at the Trenton Processing and Distribution Center.

How will the chlorine dioxide (ClO₂) gas be made and emitted into the building?

The ClO₂ will be delivered to the site as five separate chemicals – sodium chlorite (NaClO₂), sodium hypochlorite (NaOCl), hydrochloric acid (HCl), sodium hydroxide (NaOH) and sodium bisulfite (NaHSO₃). The chemicals will be kept in secure storage containers inside the site's safety perimeter and mixed on the premises as needed. A custom-built generator will mix the five chemicals to create the liquid ClO₂ solution then pump it to the emitters located inside the building. These emitters will blow air from inside the building through the liquid ClO₂ solution, release the ClO₂ gas and pull it directly into the building's existing air-handling system where it will then be distributed throughout the building with fans spreading it to hard-to-reach areas. Any unused liquid ClO₂ solution will be pumped back out of the building and reused.

How will the temperature and humidity be controlled?

A computer in the command center will control the operation of the air-handling units inside the building remotely. Additionally, a climate control system will be installed to manage the temperature and humidity inside the facility where sensors will relay data instantly back to the command center.

How will ClO₂ gas be neutralized within the building?

After the fumigation is completed, the gas emitters that took the ClO₂ inside the building will be fed with a liquid scrubbing solution that will convert the ClO₂ gas into common by-products of salt and water. This salt-water solution will then be removed and disposed of according to medical waste standards.