

FACE: 85-31
DATE: July 23, 1985
CAUSE: Confined Space (Suffocation)
SUBJECT: Three Sanitation Workers and One Policeman Die in an Underground Sewage Pumping Station in Kentucky

On July 5, 1985, a male sewer worker, a male sewer systems field manager, and a policeman died while attempting to retrieve a second male sewer worker, who had been overwhelmed by sewage at the bottom of an underground pumping station. The deceased sewer workers were 27 and 28 years old.

At about 10:00 A.M. the two workers entered a 50-foot-deep pumping station through a 3-foot-diameter metal shaft. The shaft led to an underground room, 8 by 8 by 7 feet. The ventilating fan was not working and neither worker had personnel protective equipment or clothing. The workers removed the bolts of an inspection plate from a check valve, erroneously believing the valve had been repaired. The plate blew off and raw sewage flooded the chamber, overwhelming one worker. The other exited and radioed for police help. He returned to the pumping station and was also overcome. Two officers arrived at about 10:09 A.M and one officer entered. Later, the field manager arrived and entered. A male construction worker also entered, but after descending 10 feet, called for help. The second police officer assisted him out. Firefighters arrived at 10:11 A.M., and a fireman entered the shaft wearing a SCBA, but could not locate any of the four men, and exited. Sewage had by then completely flooded the underground room. A second fireman (6 feet 8 inches, 240 pounds) entered wearing a SCBA and a life line, slipped from the ladder, and fell about 20 feet down in a folded position, with his head and feet upward. Unable to breathe, he removed his mask and lost consciousness. He was extracted after a 30-minute effort. No further rescue attempts were made until professional divers entered and retrieved the bodies. An autopsy revealed that the two workers had a considerable amount of sewage in their lungs, but the lungs of the field manager and the police officer had only a trace. Recommendations:

- o Employers should develop proper work procedures and should adequately train employees to maintain and repair sewage systems. Training should include recognition of potential hazards associated with failures within such systems.
- o Employers should develop comprehensive policies and procedures for confined space entry. These should minimally include air testing; training in respiratory protection; site-specific working procedures and emergency entry and exit plans; rescue training; and availability, storage, and maintenance of rescue equipment.
- o Firefighters, police officers, and others responsible for emergency rescue should be trained in confined space rescue.