Three Heroes Die Attempting Rescue in a Confined Space

A young student engineer had just started a new job on a dam construction project. Another employee was given the task of showing him around the dam site. He took the engineer to a drain area at the base of the dam to show him how to measure water in the chamber.

The employee opened the manhole cover and descended into the chamber. He had been at the bottom for a couple of seconds when he started back up the stairs. He became red in the face and started coughing. He then fell back against the chamber wall, and down to the water below. The student engineer began shouting for help and another worker arrived on the scene. That worker descended into the manhole, started to pull up the other victim, and collapsed himself. The student engineer continued to yell for help, and four or five people gathered around the manhole. Another man descended into the chamber. He did not come up again. Then another man began to descend into the chamber with a heavy rope wrapped around him. The rope appeared to slip, and the rope came up without the man. Now there were four victims slumped together in a heap at the bottom of the chamber.

Finally, an oxygen cylinder was obtained and was used to purge the chamber of the deadly gas. A foreman then descended into the chamber with a rope tied around his waist. He hauled out the victims, trying to revive them with mouth-to-mouth resuscitation and oxygen from the cylinder. None of the four survived.

The drain area, which could be reached by ten manholes, was not considered a hazardous area. No precautions had been taken to safeguard workers there. However, during several months leading up to this fatal event, some workers had experienced dizziness and chest pains and had noticed the sulfurous smells in the drain chambers. Subsequent investigation disclosed that the four men had died of asphyxiation caused by carbon dioxide which had accumulated in the chambers. The gas had built up because of

natural, environmental causes, the investigation report said.

This multiple fatality is typical of confined space incidents, when a lethal atmosphere knocks out one worker, and a succession of rescuers are also struck down. Lack of planning, procedures, worker training, and the correct equipment for entry and rescue all contribute to these tragedies. Be sure you know how to recognize a confined space and that you follow all the safe entry procedures.

Also note that the use of oxygen in this incident to force out a hazardous gas created a potentially explosive atmosphere. Never use oxygen for purging or ventilating a space.