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**The Gibson Winery Ammonia Fatality: September 21, 2012
The Result of “Let Them Die” Policies and Professionalization of Rescue**

Michael R. Doering, CIH, CHMM, former Senior Safety Engineer (Retired), State of California
OSHA Process Safety Management

Presenter Email: oshamike@hotmail.com

Abstract

On 2012, a young man was killed when he was trapped in a bathroom during an outdoor ammonia release at a winery in Sanger, California. What killed him was inhalation of anhydrous ammonia vapors. The vapor was released when an oil drain valve was opened instead of a hot gas valve near a shell and tube wine chiller. There were no other layers of protection, such as a valve plug or valve lock, or self closing valve on the oil drain valve at that time. The victim, a long term temporary employee who was the cousin of the man who opened the valve, attempted to escape through the released cloud of vapor and died in an exterior building hallway. Attempts to rescue the victim were thwarted by the fact that the employer had a formal policy prohibiting rescue by its employees and the resulting lack of any ammonia respirators onsite. The origin of such policies and the need for onsite preparedness is commented upon.

Introduction

At 12:15 am on September 11, 2012, a night shift supervisor opened a valve to send hot gas into a wine chiller that had frozen up. He opened the oil drain valve, by mistake, allowing liquid anhydrous ammonia to be released at system pressure. He was unable to close the valve because of the amount of ammonia in his breathing zone and because he had no respirator on. The supervisor ran from the area, yelling for others to evacuate. He did not know that another worker was in the men’s bathroom, which was about 15 yards from the release.

Events

Employees assembled in the parking lot and noticed that one person was missing. They returned to the area of the release to look for the missing employee. At first they could see nothing because of the opacity of the initially dense ammonia/water vapor droplets in the air.

After some time the air visibly cleared enough that they could see a body on the walkway, kicking his feet. They tried to rescue him but were unable to accomplish this because they had difficulty finding a respirator. Respirators at this facility were primarily used for a sulfur dioxide exposure and were the 7500 model (3M) , a half mask, which provides no eye protection from the ammonia. Employees tried to enter and grab the employee, making tries from two different directions. They tried ropes. A fan was brought in which cleared the air a bit. One employee claimed to have found and donned a “mask” which was a half mask. It is not clear whether the cartridge was designed to remove ammonia or how fresh it was. In either case, it provided no eye protection.

Paramedics arrived 19 minutes after the release began. They refused to enter the area where ammonia was present in the air. Employees carried the victim to a driveway near an office so paramedics could work on him. He was pronounced dead at the scene. One witness estimated the victim to be in the zone of high exposure for 20 minutes. Based on closed circuit television times, it took 16 minutes from the moment of release until visibility in the area returned. Assuming exposure was still very high when visibility returned, he was probably exposed for twenty minutes or more.

Based on facial injuries, it appears that the exposed worker had fallen to the sidewalk, face first. He still had his pants around his ankles from using the bathroom. This probably delayed his exit. Based on where he was found, it appeared that he was trying to make it to the door to the supervisor’s office. If he had succeeded in entering there, there was a second exit. The door was locked.

Causal Factors

The hot gas valve and the oil drain valve were hand wheel valves, both identical in shape, size and color and ten to 12 inches apart, underneath a cylindrical vessel. The 12 hour shift was at its end. It was dark. The person operating the valve said he had performed that operation 500 times with no mishap. But he was distracted by a face to face conversation or cell phone call at the time that he opened the valve.

There was no plug inserted in the threaded end/exit opening of the oil drain valve. There was no valve lock on the oil drain valve to prevent it being opened at the wrong time. There was no self closing “dead man” valve on the oil drain because it is on the end of a hose that is used when the oil is occasionally drained.

Although the supervisor yelled for everyone to evacuate, he then exited the area. There was no effort made to check the bathroom, a room which had only one exit, which would have been through the release area. The victim was in the bathroom doing his business, and had his pants down at the moment of the evacuation call. This delayed his exit. There was no other exit and no axe on the wall to make a new one, if need be. There was no emergency respirator located

in the bathroom. Nor had there been any training in how to shelter in place from an ammonia release.

The employer had a written policy that prohibited employees from rescuing another employee in an emergency. They were required to simply evacuate. This kind of policy is common and is called “simple evacuation” Some call it a “let them die” policy. With this policy, it is assumed that the fire department or off site responding hazmat team can respond in time to rescue an individual and since they are professionals and more familiar with wearing self contained breathing apparatus, their efforts would be more effective. In this case, the actual response time was not adequate to prevent the loss of life.

The employees did not follow the policy. They tried to rescue the injured employee, but were unable to, because of the lack of adequate ammonia rescue capable respirators. There were no SCBAs located at the assembly point, which they could have donned and performed rescue.

The origin of this simple evacuation or “Let them die” policy is in the OSHA HAZWOPER regulation itself, wherein an exemption from HAZWOPER training requirements is provided if employees are evacuated and do not “assist in handling the emergency”. Assisting in handling the emergency is not well defined, but in the preamble to the standard, it is clear that the intent of that exemption was to apply only if the employer succeeded in evacuating all of their employees.

Conclusion

There were several causes of the release itself at the Gibson Winery fatality. These were:

1. the similarity and proximity of hot gas and oil drain valves,
2. the time of the incident being late evening at the end of a workshift,
3. the lack of plugs or valve locks, the lack of a self closing valve, etc.

But accidents such as this one, are unexpected. One must be ready for unanticipated events involving ammonia release. The ultimate and root cause was the lack of preparation for such an emergency, because of the reliance on a “let them die” policy and waiting for the fire department.

It is believed that these “let them die” policies should not be applied in situations with a potential acutely fatal gaseous chemical that could be released in a foreseeable emergency situation. Because of such policies, preparations such as the presence of self contained breathing apparatus are not made and were not made by this employer. At any acute gaseous hazard facility a minimum of two self contained breathing apparatus should be stored and maintained in a state of readiness at the point where evacuees assemble. Then, after the head count, they could be used for re-entry. The hazwoper standard itself allows rescue to be performed by workers with only 8 hours of First Responder, Operations Level training. This is not an excessive expense, when compared with a loss of human life.

References:

1. Cal OSHA case file: 315077578 Randstad Horizons dba Placement Pros

2. Cal OSHA case file: 315077560 Gibson Wine Company
3. Sanger, CA Police Department Incident report Case Number :12003405.1
4. Sanger, CA Police Department Incident report Case Number :12003405.2
5. Closed circuit television videos of the employer.