

Two Carpenters Died Of Carbon Monoxide Poisoning Secondary To Running A Gas Powered Engine in a Confined Space (Basement of a Home)

SUMMARY:

Two carpenters were overcome by carbon monoxide when they entered a basement area where a gas powered engine was running. There was no electricity at the site yet and the gas engine was the source of power for the power tools they were using to put the first floor on the house foundation. No one witnessed the incident, it appears that the first worker may have gone into the basement via a ladder to check the generator and was overcome. The second worker may have gone into the basement to assist the downed worker and was also overcome. Both victims were found at the bottom of an opening in the basement wall, a 8-10 foot ladder was lying next to the victims. One of them had tried to punch out one of the basement windows to provide ventilation. The workers were deceased when they were found and ventilation was effected prior to victim removal by local fire department. The Wisconsin FACE investigator concluded that, in order to prevent similar occurrences, the employer should:

- **Conduct a jobsite survey to evaluate equipment and work processes and remove or control safety hazards identified.**
- **Develop and implement a written general safety program and train workers in recognizing and controlling hazards affecting themselves.**

INTRODUCTION:

On October 30, 1992, a 24 year old carpenter and his co-worker, a 29 year old carpenter died of carbon monoxide poisoning in the basement of a new home under construction. The Wisconsin FACE investigator learned of the incident through a newspaper article on November 4, 1992. A visit was made to the local police department and then to the site on November 11, 1992. The police investigator who responded to the incident was interviewed and reports were obtained from the police department and the coroner along with a newspaper article and the death certificate. Photographs of the scene were taken.

There was little information available regarding the employer. It appears that the 24 year old victim was self-employed as a carpenter and that his brother, the 29 year old victim was helping out with this project.

INVESTIGATION:

The self employed carpenter was building a new home with his co-worker. The day previous to the incident they had put a cap on the basement with the help of an uncle. The floor area had been nailed down over the basement and since all work was to be done on the main floor the uncle could not envision why the men had been in the basement. A very large gas powered generator had been lowered into the basement by the two men, why it was placed there is unknown. The lines from the compressor ran up to the first floor through a 5 foot by 5 foot opening made in the sidewall of the basement. The windows of the basement were covered and a hole had been punched out by a basement window. The uncle stated that this hole must have been punched out hurriedly to provide emergency ventilation as the worker would have cut it out neatly had it been planned. It is surmised that the generator may have ceased functioning and that the worker entered the basement to check on it and was overcome by the fumes. When the second worker saw the first worker down, he may have entered the basement to assist. A 8-10 foot ladder that was not sufficiently long to clear the opening was found lying on the basement floor where both workers were found. It is also possible that both workers entered the basement together and were overcome. The uncle who had helped the victims the day previous had stopped by the site, saw them through the 5 foot square opening and summoned the police. The coroner and fire department were called, both victims were pronounced dead at the scene and the fire department ventilated the area and removed the victims.

CAUSE OF DEATH:

Both victims died of carbon monoxide poisoning. Blood samples for both victims were positive for carbon monoxide 70% plus.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1: Employers should conduct a jobsite survey to evaluate equipment and work processes and remove or control safety hazards identified.

Discussion: a safety survey with regard to methods for obtaining power to run tools would have identified both the movement of the heavy generator into the basement and the using of it in a confined space as serious safety risks. No one at the scene could surmise why the generator had been placed in the basement as it would have functioned above ground.

Recommendation #2: Employers should develop and implement a written general safety program and train workers in recognizing and controlling hazards affecting themselves.

Discussion: In this instance the workers involved did not recognize this basement area as a confined space and followed no precautions. There was only one entry exit point, the ladder did not reach the point of entry/exit, there was inadequate ventilation, no rescue equipment was available, and the machinery used was not set up to exhaust byproducts of combustion.