Tank Explosion Kills Metal Cutter

A salvage yard scrap metal cutter was killed by injuries from a storage tank explosion. Could something similar happen to one of your workers?

The experienced welder was cutting a vehicle frame with a torch, about 10 feet from a 1500-gallon steel tank unloaded from a truck earlier. The tank may once have stored fuel underground, and warm days caused the fuel to evaporate. Heavier-than-air vapors probably escaped the tank's openings and flowed along the ground.

Spatter—bits of molten metal—ignited vapors, causing the explosion. Flames engulfed the victim, setting his clothing on fire and causing burns over 45 percent of his body. His co-worker, about 15 feet from the tank and unhurt, extinguished the flames and helped the victim walk to the shop. The victim died in a medical center 15 days later from burn complications.

Investigators recommended employers develop, implement and enforce a comprehensive safety program, which ensures that:

- A competent person inspects all work areas where hot work will be done.
- Workers can recognize and avoid hazardous situations.
- Storage tanks are inspected, tested and appropriately labeled before moving.
- Used tanks are stored in appropriate locations.

The American Petroleum Institute recommends that:

- All tanks that held flammable or combustible liquid (or whose service history is unknown) be clearly labeled with this information.
- Tanks be positioned with the vent at the top.
- Before storing, used tanks should be freed of vapors by filling with water or insert gas.
- Openings should be plugged or capped tightly.

Remember: a spark can travel 30 feet or more, and spatter, which is larger and hotter, can travel several feet. If there is doubt about the combustibility of nearby materials, they should either be removed, spatter shields should be erected, or the hot-work area should be relocated.