Farm Machinery Fire Prevention Fatality File

Farmer died when front end loader bucket struck propane tank hidden by snow

In the winter of 2011, a male farmer in his 50s died when the bucket of the frontend loader he was using to clear snow from a driveway struck a 500-gallon propane cylinder, causing a fireball which engulfed the front end loader. Approximately six to eight months prior to the incident, the farm initiated a change in propane suppliers. The original propane supplier disconnected the tanks, including the incident tank, but did not pick them up from the property. The cylinder had been moved from its original location behind the home to the driveway's turnaround area by the new propane supplier (Supplier 2) to provide easy access for Supplier 1 to haul away. The day and night prior to the incident, approximately 14 inches of snow fell. The decedent was either unaware of or forgot that the cylinder was on the driveway turnaround. It was dark when the incident occurred and the drifted snow may have hid the tank. The decedent made several passes with the loader. He struck the propane cylinder resulting in an 8-inch tall by 1-1 1/2-inch-wide gash opening. It appears that releasing propane created a cloud which was ignited by either the heat of the front-end loader motor or a spark created by the metal on metal contact when the cylinder was struck by the bucket. The front-end loader was engulfed in flames from the resulting explosion. Emergency response was called, and the decedent was transported to a nearby hospital where he died the next day from complications of the burn injuries sustained at the time of the incident.

Factors which could be involved in this incident include:

- Propane tank not picked up by propane supplier
- Snow hiding the propane tank location and footprint
- Insufficient lighting to identify the tank location in the snow

RECOMMENDATIONS

When moving propane tanks to a different location, set the tank in a non-traffic area away from vehicle movement.

Install protection (i.e., fencing, barricades or posts) to protect aboveground propane tanks from possible damage from passing vehicles and identify the propane tank's location, including the tank's footprint using stakes, flags, or poles.

Propane suppliers should promptly retrieve disconnected tanks when service is terminated and, if prompt retrieval is not possible, the propane supplier should properly remove any remaining gas in the tank prior to the tank placement while awaiting retrieval.

CAUSE OF DEATH

- The cause of death as listed on the death certificate was medical complications of cutaneous and inhalation injuries (burns). An autopsy was not performed.