

## Overflow + Ignition = Tank Farm Fire! (Part 2)

A large storage tank containing a flammable liquid overflowed. Two operators responded to the report of a possible spill by driving a truck to the area to investigate. Within minutes, there was a loud explosion followed by a fire. It is believed that the truck provided the ignition source. It took emergency response personnel a day and a half to extinguish the fires which spread through the tank farm. More than a dozen employees were hospitalized and there was significant property damage.



*See the September 2009 Beacon for a discussion of what you can do to prevent tank overflow.*

### Do you know?

- An internal combustion engine (gasoline or diesel) can be an ignition source for a flammable vapor cloud. Internal combustion engines are commonly used in motor vehicles, and also in other portable equipment used in plant operation, maintenance, and construction.
- The temperature of hot surfaces of an engine can exceed the autoignition temperature of many common flammable vapors.
- If a flammable vapor is present in the air taken into an engine, the flammable vapor provides additional fuel and can cause the engine to run faster.
- Diesel engines have been reported to continue running using the flammable atmosphere as a source for fuel and air. The reason is that diesel engines operate by igniting the fuel by compression heating while gasoline engines use spark plugs.



**What was left of the truck!**

### What can you do?

- Never drive into an area where you suspect there might be a flammable vapor cloud!
- Remember that other equipment driven by an internal combustion engine can also act as an ignition source. Such equipment might include mobile or portable generators, air compressors, engine driven pumps, and lawn mowers, for example.
- Many plants which handle flammable materials require a hot work permit for operation of a motor vehicle or other engine in certain areas. You should be familiar with your plant policies and requirements and always follow them.
- If the engine of a vehicle you are driving begins to rev up by itself, shut it down and get out immediately. You may have driven into a flammable atmosphere!
- Some facilities require that all engines be fitted with a positive air shut off. Know if your plant requires this. If it does, make sure that you are fully trained on how this equipment works, how and when to use it, and how to maintain it.

***Don't drive into an explosion!***