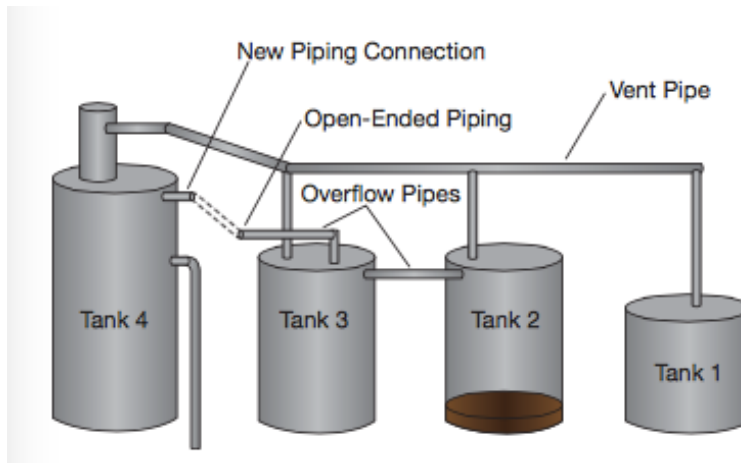


## Process Safety Incident of the Week Partridge-Raleigh Oilfield Explosion

(<https://www.aiche.org/sites/default/files/cep/20150323.pdf>)

On June 5, 2006, three contract workers were killed and a fourth seriously injured in an explosion and fire at the Partridge-Raleigh oilfield in Mississippi. The workers were tasked with installing a pipe between two oil production tanks. Welding sparks ignited flammable vapor that was escaping from an open-ended pipe near the welding activity. Several days earlier, crude oil residue were removed from tank 4 and flushed with water. However, the contractors did not clean out or purge crude oil residue from tank 2 or 3. Before starting to weld, the welder checked for flammable vapor in tank 4 by inserting a lit welding torch into it, an unsafe act known as flashing the tank. Then, they proceeded to begin their work. Almost immediately after the welder started to weld, flammable hydrocarbon vapor that was venting from the open-ended pipe attached to tank 3 ignited. The fire flashed back into tank 3, spread through the overflow-connecting pipe from tank 3 to tank 2, and caused tank 2 to explode. The lids of both tanks were blown off causing the workers on top of the tanks to be thrown off onto the ground.



### Causes

Hot work was being performed in the presence of a flammable atmosphere without any safe work permitting procedure. A gas detector should have been used to test for flammable vapor. The open ended line on tank 3 was not capped or isolated. All of the tanks were interconnected and some still contained the flammable residue and crude oil.

### Key Lessons

Safe work practices are necessary to ensure a safe work environment when hazardous chemicals are present.