

Hot Work Hazard Alert

Emerging Issues Meeting

September 20th, 2016

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Hot Work Hazard Alert

- First meeting last week of March of 2016
 - Fatalities associated with Produced Water
 - After 2 months: Produced Water Hazard Alert
- Presented at Emerging Issues Meeting on May 2016
 - Discussion to broaden the alert to Produced Fluids
 - Reviewed fatalities over last 10 years of Fires and Explosions (2005 – 2015)

Fatalities Associated with Fires and Explosions

- 85 Fatalities from 2005 – 2015
- 28 Fatalities from Hot Work
 - Welding, cutting, grinding, propane torch
 - Storage tanks, tanker/vacuum trucks, heater-treaters, flowlines from wellhead
 - General maintenance and repairs
 - On production sites and at maintenance shops

Between 2005 and 2015
85
DEATHS due to fires or explosions

including **28**
hot work deaths

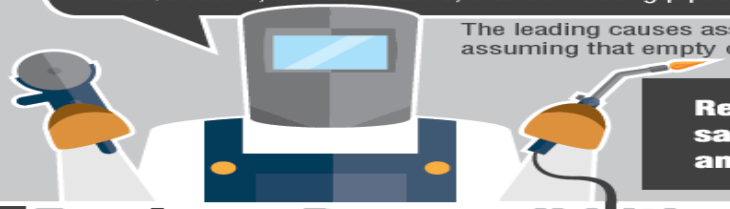
Fatalities Associated with Hot Work on Oilfield Tanks, Tankers, and other related equipment

Produced fluids, such as crude oil, flowback water and produced water are brought to the surface, along with hydrocarbon vapors and gases during production operations. These fluids are separated and stored on the production site in tanks which require periodic monitoring and repair. Tanker/vacuum trucks and pipelines are used to transport and/or remove these fluids from the production site.

There are flammable and toxic hazards (i.e. H₂S, benzene) associated with hot work operations (burning, welding, using fire-or-spark producing tools) on permanent and temporary storage and tanker/vacuum truck tanks and other equipment such as heater/treaters, flowback tanks, interconnecting pipes, and produced water tankers which contain hydrocarbon residues.

The leading causes associated with these fatalities are not following hot work practices and assuming that empty oilfield equipment does not present a fire or explosion risk to employees.

Recognizing and understanding the job/hazards and following safe work practices can prevent potential fires, explosions, and health hazards.



Employer Responsibilities

Must conduct exposure and hazard assessments at the worksite and review with workers:

- Hazards of possible flammable/toxic hydrocarbons being present
- Safety Data Sheets (SDSs) on produced fluids
- Proper use and limitations of personal protection equipment (PPE), including eye, face, skin, hearing, and respiratory protection, and fire retardant clothing (FRC)

Must establish safe work practices and procedures for:

- Hot work, confined space work, Lockout/Tagout (LOTO) work
- Thoroughly cleaning and venting tanks to safe areas before beginning work
- Continuously monitoring (multi-gas meter) for H₂S, oxygen, and lower explosive limits (LELs)
- Thawing frozen valves, hoses, and lines

Must implement and train workers on additional hazard control measures, including:

- Hot work permits and other safe work practices (i.e. confined space, LOTO)
- Recognize and eliminating ignition sources (e.g. ground and bond equipment, intrinsically safe tools)
- Air monitoring devices and procedures
- Emergency Action Plan

Must verify sub-contractors are following work practices/procedures

An Empty Tank Does Not Mean a Safe Tank — Check Every Tank Every Time

Worker Responsibilities

Your employer has established safety procedures for your protection, including a Hazard Assessment and Work Practices/Procedures

- Follow employer's work practices and procedures
- Use proper grounding/bonding
- Obtain appropriate hot work permits before beginning work
 - Review with and have supervisors sign off on permit/audit work procedures
- Attend hazard communication training – know the contents and hazards of the tanks you work on
- Be aware of potential ignition sources (e.g. static, cell phones, open flames, cigarettes, sparks from tools or metal objects, etc.)
- Use required PPE, air monitoring devices, and heed all alarms
- Evacuate and report hazards immediately



If you're uncertain about potential risks or have questions, STOP THE JOB AND ASK — IT COULD SAVE YOUR LIFE!

Through the OSHA/NIOSH/National Steps Alliance, this Hazard Alert is for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. August, 2016

Next Hazard Alert

- Diesel trucks, engines, motor pumps, etc. too close to flammable sources
 - 26 fatalities
 - Well head, tanks, flowback tanks
 - Servicing Rigs, drilling operations, production sites

Any Questions

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