

Permitted work – a special cause

May 2020

On November 9, 2010, in upstate New York, USA, a contractor was welding new support brackets on a tank for water-based polymer slurry. The area outside the tank had been monitored for flammables and approved for hot work, but the inside of the tank was not tested. An explosion occurred; one person was killed and another one received first-degree burns and other minor injuries.

Several factors including residues of flammables in the slurry, an overlooked connection to the slurry tank, and a piping leak inside the tank allowed flammable vapors to accumulate; these were ignited by sparks from the hot work (Reference: Chemical Safety Board Investigation Report #2011-01-I-NY). Activities that are not performed on a regular basis may require a work permit. Permits are usually a checklist that require someone to insert information, and another person to review and approve. Examples of permitted work often include: Confined Space Entry (CSE), Hot Work, Lock-Out Tag-Out (LOTO), Line breaking/Equipment opening. Some companies use permits for other non-standard activities such as moving and setting cranes, vacuum truck use, and disabling safety systems. Serious incidents in the chemical industry often involve these or other permitted activities.

Permits provide a checklist to verify the unique hazards are properly understood and managed before, during, and after the activities.

Before – All requirements on the permit must be reviewed and approved BEFORE the work starts.

During – Activities in the area must be monitored to ensure things do not change (e.g. CSE atmosphere or flammable levels) as work progresses.

After – Equipment and process or physical conditions that were changed during the permitted work must be verified to be in the proper condition before operations are resumed.



Aftermath from a fatal fire and overpressure during hot work.

Did you know?

- Some non-standard activities require safeguards to be removed or disabled during the work. This means the usual alarms may not be active, or a safety system may not be available.
- During special work, valves may be placed in different positions due to changed process conditions. This should be noted on the permit.
- Contractors may be performing work as part of the permit and may not understand your systems.

What can you do?

- Recognize when activities require a permit and follow the permit procedures.
- Do not take any shortcuts with preparation activities or completing the permit. If contractors are performing the permitted work, make sure they are aware of conditions and perform their part of the permitted work properly
- After activities are completed, visit the worksite to verify it is ready to be returned to service and that all safety systems are functional.
- If you are assigned a role in a permitted activity, take it seriously. Your life and that of others may depend on it.

Use work permits as if your life depends on them – because it may!

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