Hot Work Procedures Stats and Facts

FACTS

1. Hot work can harm people by causing burns, entrapment, illness due to fumes, eye damage from debris, or hearing loss due to noise.
2. The most common and significant risk of hot work is fire.
3. Fire hazards posed by hot work include:

- Flying sparks. This is the main risk posed by hot work. Sparks can easily get trapped in cracks, pipes, gaps, holes, and other small openings, where it will potentially smolder and start a fire.
- Flammable swarf, molten metals, slag, cinder, and filings. The debris and residue that hot work creates are often highly combustible and/or hot.
- Heat conduction when working on pipes. Hot work can cause a pipe to heat up substantially and this heat can easily transfer through the process of conduction to another, potentially flammable surface and cause a fire.
- Hot surfaces. If you don’t properly remove flammable materials or substances from the area before work, they could come into contact with a surface that has become hot during the work and easily start a fire.
- Explosive atmospheres. In certain environments, there may be vapours or gases in the air that are highly combustible and could ignite when exposed to hot work.

STATS

- According to the Bureau of Labor Statistics, more than 500,000 employees are injured in welding accidents each year.
- With over half a million American welders working today, we can conservatively expect 2,000 welding fatalities in our lifetime.
- Welding torches ranked first among the type of hot work equipment involved in fires with 36 % of the fires.
- NFPA research estimates that, in the United States alone, fire departments respond to an average of 4,580 structure fires involving hot work each year with 57% of incidents occurring in non-residential settings. Beyond the associated costs related to property loss, business continuity, and displaced occupants – there is also the human toll. In the U.S., an average of 22 civilian deaths, 171 civilian injuries, and $484 million in property damage is incurred per year from hot work.
- Welding torches were involved in 40 % of the non-home hot work fires but only 31 % of the home fires associated with hot work.
- Cutting torches were involved in one-quarter of the non-home fires (25 %), twice the percentage of home fires (13 %).