

Applicable Forms:

- Safe Work Permit
- Authorization C1D1 Hot Work & Double Block and Bleed Isolation Form

Hot Work

Field Reference Tool



Life Critical Expectations

HOT WORK

Control flammables and ignition sources



- I confirm 0% LEL at the location of the work.
- I confirm combustibles and flammables are protected or at a safe distance from the work.
- I confirm that energy sources are isolated and the work environment is prepared for hot work.
- I utilize a Fire Watch when performing spark producing hot work outside of designated safe welding or burning areas.

Life Critical Failure Examples

- A welder conducts spark producing hot work after obtaining an LEL reading above 0%.
- A roustabout uses a grinder within 35' of a combustible material without a Safe Work Permit.
- A crew using a diesel generator within 50' feet of an open source without a Safe Work Permit.
- A mechanic welding on a section of piping from a vessel without first properly performing LOTO.
- A worker using a cutting torch within 5' of an open source without a Fire Watch.

Hot Work within the Distances Below Require a Safe Work Permit

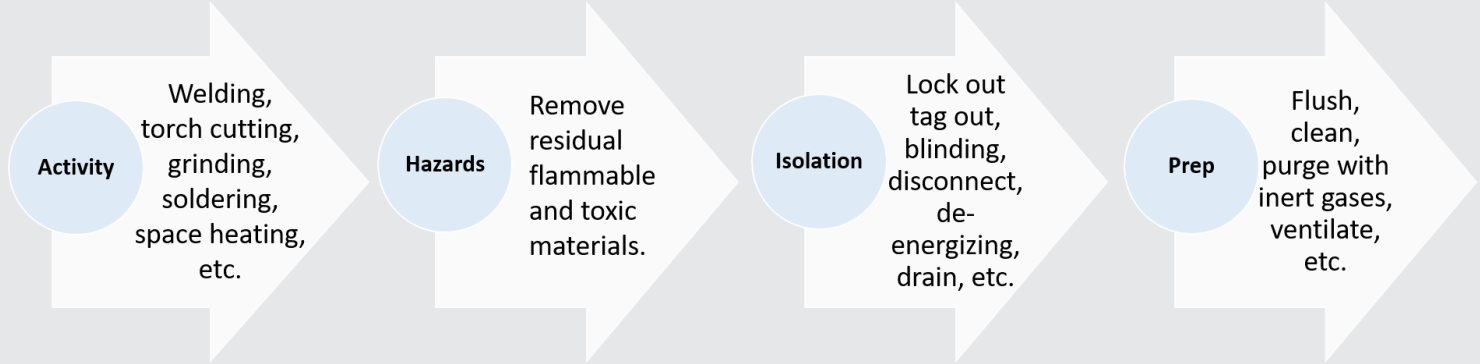
⇒ Hot Work will NOT take place when air monitoring shows the LEL to be above 0%

	Open Source	Above Ground Hydrocarbon Source	Combustibles	±Fire Watch Required
Non-Spark Producing Hot Work	50'	10'	NA	No
*Spark Producing Hot Work	100'	50'	35'	Yes

±A Fire Watch is onsite for all spark producing hot work for a minimum of 30 minutes after the completion of work.

*Class I Division I Authorization Form is required if performing spark producing hot work in a Class 1 Division 1 area (5' from vents, Pressure Safety Valves (PSV)/ Pressure Relief Valves (PRV,) etc.) Contact HES Department.

Preparing an Area for Spark Producing Hot Work



Safe Work Permit Exemptions

1. Safe Work Permits are **NOT** required for personnel who are wearing a 4-gas Personal Alarm Monitor (PAM) within their breathing zone and outside of a Class I Division I area for the following forms of non-spark producing hot work:
 - Handheld mobile electronic devices (such as cell phones, iPads/tablets, laptops or cameras.)
 - AC/DC powered hand tools (such as ultrasonic thickness testers, instrument calibration tools, or volt meters.)
 - Opening of explosion proof conduit, instrumentation, junction or breaker boxes located in CIDII areas or within 10' of above ground hydrocarbon sources.
2. Hot work within a designated safe welding & burning area does not require a Safe Work Permit (permit is required for spark producing hot work within 35' of combustible materials.)
3. Internal combustion engines within specifically designed truck loading areas at facilities for oil and water are **excluded** and do not require a Safe Work Permit. Drivers must visually inspect the area prior to entering.
4. A Safe Work Permit is not required for non-spark producing hot work if a fixed continuous LEL monitoring system is utilized. The sensors must be located between the flammable source and the hot work activity. Additionally, sensors must be located no more than 15 feet from the hot work activity.

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Class I Division I – Ignitable concentrations of flammable gases or vapors are normally present under normal operating conditions.

Class I Division II – Ignitable concentrations of flammable gases or vapors may be present under normal operating conditions.

Spark Producing Hot Work – Hot work that includes, but is not limited to: welding, burning, torch cutting, grinding, brazing, soldering, torch & space heating, riveting, all open flames, and abrasive blasting*.

*Abrasive blasting conducted outside of a Class I Division I area utilizing non-silica based blast media (i.e. Black Beauty), conductive hoses and properly bonded/grounded equipment is considered a form of Non-Spark Producing Hot Work.

Non-Spark Producing Hot Work – Hot work that includes, but is not limited to: cellphones, computers, cameras, tablets, the use of non-intrinsically safe/explosion proof tools, vehicle access & engine use, AC or DC powered tools, etc.

Above Ground Hydrocarbon Source (AGHS) – Hydrocarbon processing, transmission, and storage equipment that is not buried, such as, but is not limited to: wellheads, pipelines, drains, pressure relief devices, vents, sample points, process vessels, storage bullets/tanks, etc. Also includes equipment that has previously contained hydrocarbons and has not been adequately cleaned.

Open Source (OS) – An open hydrocarbon containing process, which allows flammable and/or combustible vapors to freely flow. This specifically includes open-top flowback tanks, surface discharge pits, swab tanks and spill zones. It excludes flow lines/shakers/mud pits and stand-alone containers or spills less than 55 gallons.

