

PROCEDURE

Hot Work

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Document Review Record				
Document No. and Name		WHS-PRO-016 Hot Work Procedure		
Rev No	Description	Prepared by	Checked by	Date
0	New	Mackay Safety Consultants		22.04.2013
1	Reformat to RSG + full review of procedure	E Wicks		
2	Update Number Structure	L Strappazon	M Delaney	08.06.2016
3	Review as per Internal Audit A022	A.Forrest	M.Delaney	07.07.2016
4	Remove and transfer responsibilities section to QMS-PRO-026 Authority and Responsibilities Procedure	M Richards	L Strappazon	03.11.2016
5	Review	M Vorpapel	D McNeil	26.09.2019
Electronic approval by: Name: David McNeil Position: Operations Manager Date: 26.09.2019				
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1 PURPOSE

All hot work shall be conducted in accordance with this procedure, the appropriate Australian Standards and, if the work is on a site, the specific site requirements.

2 SCOPE

This procedure gives guidelines for the precautions and preparation that should be followed to ensure that work covered by a hot work permit can be carried out safely without risk to people or property.

3 DEFINITIONS

Company / the Company: Refers to Reay Services Group and associated entities.

Hazardous Area: An area in which flammable liquids, vapours or gasses; combustible liquids, dust or fibres; or other flammable or explosive substance may be present.

Combustible Material: Material that can maintain combustion without the addition of an external heat source, eg. timber framing present within wall and ceiling framing or forested areas containing dry grass.

Hot Work: Grinding, welding, thermal or oxygen cutting or heating, and other related heat-producing or spark-producing operations.

Responsible Officer: The Work Supervisor, Area Works Supervisor having a satisfactory knowledge of the fire, explosion and toxicity hazards associated with hot work and who is adequately trained and experienced in the procedures and precautions necessary for the elimination of any risk involved.

System: Quality, Safety and Environmental Management Systems.

4 RESPONSIBILITIES

All company Employees and Contractors are responsible for complying with the requirements of this procedure.

Refer to QMS-PRO-026 – Authority and Responsibilities Procedure for further details.

5 PROCEDURE

5.1 Hot work permit

A Hot work Permit is required for any hot work being conducted.

Any hot work being performed on a client mine site is required to follow client procedures and permits.

5.2 Prior to performing hot work

You must consider the following prior to performing any hot work:

- Can hot work be avoided?

- Can you use a safer alternative?
- Can the work be done outside the building?
- Can cutting with hand or electric saws or pipe cutters replace flame cutting?
- Is it feasible to use a mechanical means of joining eg. nuts and bolts, screwed fittings or couplings?
- Is hand filing possible instead of grinding?
- Can threaded pipe be used instead of welded pipe?

5.3 Compliance

All hot work is to be conducted in accordance with AS 1674.1 Safety in Welding and Allied Processes.

5.4 General

This procedure applies to any Company employee or contractor who is performing new construction, repair, maintenance, renovations and/or alterations that require hot work in any hazardous area or area containing combustible materials.

5.5 Hot work area

The area within a radius of 15m in the case of hazardous areas and 3m from combustible materials in any other area from the point where the hot work is to be undertaken, including the space above and below that area, should be made safe by various techniques, preparation and testing, to ensure that any risk of fire or explosion resulting from the hot work is eliminated.

The following containment's should be effected:

- The hot work area should be isolated using appropriate warning barriers.
- Vapour-tight barriers may be necessary between equipment, piping, sewers, tanks and the like that may contain hazardous materials and the hot work area. Screens should also be used to protect other workers from arc welding or cutting 'flash'.
- Any pipe or tank in the hot work area that may be a hazard should be positively isolated by blanking off, blinding, plugging or removing spool pieces and blanking off open ends.
- Discharge from pressure relief, excess flow and overflow valves should be piped to discharge at a safe area. It may be necessary to find other means of venting the adjacent lines, to eliminate the hazard of the relief valve opening while hot work is in progress.
- Valves, tappings and other equipment or facilities that may produce flammable or combustible liquids, gases or vapours in or around the safe area should be secured against inadvertent opening.

5.6 Safe atmospheres

AS1674 gives recommended procedures to prepare for hot work on equipment that has held or may have held flammable or explosive substances.

Equipment, piping and tanks on which hot work is to be undertaken should be thoroughly drained, flushed with water, dried, steamed and air purged as necessary, to provide an atmosphere that can be tested and certified gas free, immediately before commencement of hot work.

Sludge and scale should be removed, as they may have entrapped volatile material that could be released and ignited by sparks or hot metal.

Ventilation should be provided to remove any existing fumes as well as those that may be generated from the work (eg welding). Ventilation may need to be mechanical.

5.7 Housekeeping

Combustible material that cannot be removed should be covered with a safety-secured non-flammable cover.

Oily surfaces and oil spills should be hosed down, then sanded over. Trash, oily rags and the like should be removed.

5.8 Sewers and drains

For sewers and drains fitted with a p-trap or other type of seal, the operator should ensure that the bottom of the baffle is below water level. Sewers and drains should be covered by wet sandbags, to prevent escape of vapours from the sewer.

Where a hazard exists in the vicinity of vent pipes from a liquid seal, the vents should be plugged or otherwise blocked to prevent the escape of flammable vapours or gas.

5.9 Firefighting equipment

On-site fire fighting equipment should be serviceable and ready to operate should an emergency develop during a period of hot work. Users should be competent in its operation.

5.10 Firewatchers

During progress of hot work, the assigned firewatcher should ensure that no condition arises, or action is taken, that will lead to a hazardous situation in the hot work area. Constant vigilance, checking of adjacent equipment and observance of safe practices is essential.

5.11 Contaminated ground

Ground that has been contaminated by spilled flammable or combustible liquids should be covered with at least 50 mm of clean sand, and cleaned up and properly disposed of afterwards.

5.12 Wind

Wind may carry gases, vapour or dust into a hot work area from adjacent areas. Regular gas testing of hot work areas should be carried out to ensure that there is no ingress of flammable material.

5.13 Movement of traffic

Whenever possible, vehicular traffic should be kept out of hot work areas while work is in progress.

5.14 Opening of drains

Before drains or sewers are opened, hot work permits should be withdrawn, work stopped and a careful check made for smoldering materials.

5.15 Flammable liquids

Do not take flammable liquids, including cleaning solvents, into an area covered by a hot work permit.

5.16 Welding equipment

Welding machines and gas cylinders should be located in a known gas-free area at a safe distance from equipment being welded. Welding return leads should be connected as close as practicable to the weld (see AS 1674.2).

5.17 Shielding

Where shielding is required to confine a hot work area, non-combustible welding drapes should be used in preference to wet tarpaulins. Signs should be displayed warning of hazards eg welding flash.

5.18 Job completion

At the completion of a job, the area/equipment should be returned to its normally secure mode and the fire fighting equipment that has been brought to the hot work site should be returned to its normal storage.

6 WORK PERMIT PROCESS

1. Responsible Officer as required and person doing the work conduct thorough inspection of site where hot work is to be done.
2. Based upon a risk assessment, if the work is to be done in an area containing combustible materials that is not a hazardous area the Responsible Officer may elect to rely upon the person doing the work to conduct the inspection.
3. Consider points previously raised in this document and on the Hot work Permit.
4. Establish precautions that are to be taken.
5. Hot work in any Hazardous Area is not to be undertaken unless the Area Works Manager has been consulted and his directions followed.
6. Hot Work permit must be obtained prior to commencement of hot work. Authorisation to proceed with hot work will be issued by the Area Works Manager.
7. Person doing the work is to post the permit at the hot work location during the entire works
8. If a fire watch is required the Responsible Officer may inspect the work site during the works and for the required period after.
9. Upon completion of the works the Responsible Officer as required and person doing the Work conduct thorough inspection of site where hot work was done.
10. Return completed Hot work Permit to place of issue.

7 REFERENCE DOCUMENTATION

AS 1674.1 Safety in Welding and Allied Processes
WHS-FRM-009 Hot Work Permit

1 ATTACHMENT 1 – STATEMENT OF UNDERSTANDING AND COMPLIANCE

Statement of understanding and compliance:

I.....
(Employee/Contactor Name)

Have read, understood and agree to abide by the requirements as listed in this procedure.

Signed:

Date:

To be filed on employee's personal file.