Risk Assessment

Activity	Hot Work	**Ref**	RA141
Description	Works involving or producing a spark, flame, or heat.		
Assessor		**Date**	

Hazard Identification

Hazard	Likelihood	Severity	Risk
Fire	L **M** H	L M **H**	L M **H**
Arc	L **M** H	L **M** H	L **M** H
UV radiation	L **M** H	L **M** H	L **M** H
Fumes and gases	L **M** H	L **M** H	L **M** H
Explosion	**L** M H	L M **H**	L **M** H
Burning	L **M** H	L **M** H	L **M** H
Equipment failure	L **M** H	L **M** H	L **M** H
Electrical equipment	L **M** H	**L** M H	L **M** H
Gas equipment	L **M** H	L **M** H	L **M** H
Storage of gases	**L** M H	L **M** H	L **M** H
	L M H	L M H	L M H
	L M H	L M H	L M H
	L M H	L M H	L M H

People at Risk

- [x] Workers
- [x] Adjacent Workers
- [x] Site Wide Workers
- [ ] Occupants
- [ ] Visitors
- [ ] Members of Public

Controls

Risk	Control Measures
Fire Ignition source increasing risk of fire	Ensure fire risk assessment has been carried out prior to any hot work taking place. Hot works permit to be used for all hot works operations. All flammable materials to be removed from the work area prior to task commencing. Any combustible materials that cannot be removed must covered with non combustible sheets or other non combustible material. Keep the quantity of combustibles on site to a minimum. All gaps in walls and floors through which sparks could pass covered with non combustible sheets. Keep a dry powder or other suitable fire extinguisher close to hand. Ensure that hot work is carried out away from sources of open explosive/flammable substances. Ensure that all tanks and vessels containing flammable materials are thoroughly purged before hot works takes place. Regular fire checks up to 1 hour after completion of activity. Means of raising fire alarm and fire emergency plan to be established prior to commencement.
Arc Eye damage and irritation from the effects of electric arc welding	Ensure that only trained and authorised operatives carry out hot work activities. Ensure the correct PPE including face masks and/or eye protection is worn throughout. Ensure the use of adequate health screening for those employees exposed.

Risk	Control Measures
UV radiation Overheating and skin burns from ultra-violet radiation exposure	Ensure adequate protection by using adequate PPE. Face, hand and arm protection - gloves, full length sleeves and collar in addition to facial protection required.
Fumes and gases Exposure to fumes and gases, throat irritation, metal fume fever etc	Ensure there is adequate ventilation in the work area. Ensure that exposure limits (WELs) are not exceeded. Calculations show that current WELs will not be exceeded for this activity without additional extraction.
Explosion Risk of death or serious injury	Ensure that hot works are carried out away from sources of open explosive/flammable substances. Ensure that all tanks and vessels containing flammable materials are thoroughly purged before hot work takes place. Check atmosphere in working environment is safe and signed off in permit to work before proceeding.
Burning Burns to skin or clothing	Touching live electrical equipment or components, including the electrode, can result in serious burn injury or electric shock. Ensure that overalls and other protective clothing is kept free of oil and grease or other flammable materials. No loose clothing to be worn and long hair tied back.
Equipment failure Increase risk due to faulty equipment	Pre-use visual checks to be made on all hot works equipment by competent person. In addition, it is recommended that the following are included in a formal system of regular examination and recorded: • Leaks at connections • Damage to hoses • Correct operation of non-return valves, pressure regulators and pressure gauges • Check for build - up of deposits of combustion products in flame arrestors (resulting in low gas flow rates) • Damage or malfunction of any other component

Risk	Control Measures
Electrical equipment Electric faults or shock	Appropriate selection, care and maintenance of equipment. Suitable electrical protection (e.g. insulation and earthing) to be ensured. Efficient and convenient means of switching off the power supply. Observance of safe working practices. Inspection and maintenance of all equipment by a competent person, with particular attention being paid to electrode holders, cables, plugs, sockets, clamps and earthing. Electrical hazards are frequently not obvious and caution is essential when working with electric processes, equipment and machinery. Ensure that only trained and authorised operatives carry out hot work activities. Use 110V transformers, centre tapped to earth and only use 110V power tools on site. PAT test electric equipment at least every 6 months, more often if in heavy use. Visually inspect cables and equipment before use. Faulty or damaged equipment to be reported and taken out of use for repair or replacement.
Gas equipment Gas exposure or leaks	Provision of appropriate equipment and installations. Materials to be compatible with the gases used (construction, lubricants etc). Oxygen service equipment in particular to be free of any solid or liquid inorganic or organic contamination. Use of appropriate pressure regulators, capable of safely handling the maximum supply pressure. Use of suitable pressure gauges. Use of suitable rubber hose and connections. Use of suitable blowpipes, suitable for the gases and process involved, producing a stable, adjustable flame and resistant to backfire. Use of appropriate safety devices including: • None-return valves • Flame arresters • Outlet connections • Pressure relief valves etc

Risk	Control Measures
Storage of gases Flammable and hazardous substances	Storage in clear open air in secure area. Free or well separated from toxic/corrosive/combustible materials. Protection from heat and weather. Ensure adequate separation distance or fire wall. Cylinders for use to be stored and secured in upright position in a well-ventilated designated area.

Risk Level

<L	L	M	H	!
Very Low	**Low**	**Medium**	**High**	**Very High**
safe to proceed work under standard control measures	safe to proceed work under additional control measures	proceed with caution under additional controls measures	proceed with caution under further controls with supervision	unsafe DO NOT proceed - essential further action needed

Further Action

Action Required	Timeframe	By	Date
Ensure adequate supervision is provided and that control measures remain valid for the duration of the works.	Ongoing		
Safe systems of work are provided and issued to all staff and training provided in their use.	1 week Refresh at inductions		
All staff to be trained in the importance and use of correct Personal Protective Equipment and wearing of the correct PPE made a condition of employment.	1 week Refresh at inductions		
Work to proceed only under hot works permit due to high risk, and provision of task specific training for operatives and supervisors / managers.	Before work starts		

Acknowledgement

Name	Signature	Date