## Risk Assessment - Plasma Cutter

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Plasma Cutting

Department: Global
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# Plasma Cutting

**Gloucestershire Warwickshire Steam Railway Plc**
**Risk Assessment for Plasma Cutter - Global**

| Type | Hazard<br>Cause | Persons Affected | Control Measures | L S T Overall | Additional Control Measures | L S T Overall | Owner/Action |
|---|---|---|---|---|---|---|---|
| Health and Safety | Infrastructure damage and injury to user or those within work area<br>Cuts, impact or fire caused by misuse | Volunteers & Staff | 1) Engineering: Barrier off work area or restrict access so that any hot materials cannot impact other associates - Effective<br>2) CRITICAL - Engineering: Screens should be used, secured and in place to stop others from being exposed to a risk of 'arc eye' injury or being struck by ejected particles. - Effective<br>3) CRITICAL - Engineering: All equipment should be inspected to check for damage before use. - Effective<br>4) CRITICAL - Engineering: Workpieces must be securely fixed or clamped before work starts - Effective<br>5) CRITICAL - Engineering: Position workpieces so that any spatter or emitted projectiles are projected away from the user wherever possible. - Effective<br>6) CRITICAL - Engineering: Gas and air regulators should be inspected and 'in-ticket'. - Effective<br>7) CRITICAL - Engineering: All mobile electrical equipment must be PAT tested and 'in-ticket'. - Effective<br>8) CRITICAL - Engineering: Ensure that trailing hoses and electrical cables are not a trip hazard. - Effective<br>9) CRITICAL - Engineering: Be aware of the production of fumes and work in a well ventilated area. - Effective<br>10) CRITICAL - Engineering: Decontaminate all materials before work starts (grease, dirt, oils etc.) - Effective<br>11) CRITICAL - Engineering: Any cutting equipment, should be stored securely and appropriately. - Effective<br>12) CRITICAL - Engineering: Where work is above floor level, non-combustible curtains or sheets suspended beneath the work should be used to collect sparks - Effective<br>13) CRITICAL - Administrative: Users should be experienced, competent and authorised to use the plasma cutter - see workshop manager for list of approved users - Effective<br>14) CRITICAL - Administrative: Ensure no flammables are within the work area - Effective<br>15) CRITICAL - Administrative: Fire extinguishers should be available 'on the job' close to the work area. - Effective<br>16) CRITICAL - Administrative: Lone Working is not allowed for plasma cutting - Effective<br>17) CRITICAL - Administrative: Minimise skin exposure, particularly wrists and lower arms - Effective<br>18) CRITICAL - Administrative: Warn others in the work area in advance of the work starting. - Effective<br>19) CRITICAL - Administrative: Arrange the workplace so as to avoid clutter and hazards. - Effective<br>20) CRITICAL - Administrative: Maintain a good posture when working and avoid crouching over or becoming too close to the work piece. - Effective<br>21) CRITICAL - Administrative: Be aware of your own limitations. - Effective<br>22) CRITICAL - Administrative: Work should cease and a 'fire watcher' be in place for 30 mins afterwards in case any stray sparks or other hot materials cause a fire. - Effective<br>CONTINUES ON NEXT PAGE | 2 x 3 = 6<br>Medium - Risk to be minimised and controlled so far as is reasonably practical. | 1) Engineering: Consider using fume extraction systems - Effective<br>2) Engineering: Consider damping down the work area before and after the task is completed with water sprays or similar. - Effective<br>3) Engineering: Consider the use of flame blankets to reduce fire risk. - Effective<br>4) Engineering: Consider fiting smoke detectors and fire alarm facilities to areas where hot work is undertaken. - Effective<br>5) Engineering: Consider barriers around the place of operation - Effective<br>6) PPE: Consider wearing a safety apron to reduce impact of sparks - Effective | 2 x 3 = 6<br>Medium - Risk to be minimised and controlled so far as is reasonably practical. | n/a |
| | | | 23) CRITICAL - Administrative: Maintain good housekeeping throughout the work area. - Effective<br>24) CRITICAL - PPE: Fire retardant overalls, gloves/gauntlets, safety footwear and eye protection shall be worn. See below PPE additional note for eye protection grades - Effective<br>25) CRITICAL - PPE: Suitable eye protection shall be worn and this is determined by shade number: Light cutting: shade number 3 or 4 for up to 1" cuts; medium cuts (1-6") shade number 4 or 5; heavy cuts (>6") shade grade 5 or 6 - Effective | | | | |

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|---|---|---|---|---|---|---|---|
| **Score and Control Measure Notes.**<br>Risk is medium if trained competent users follow the control measures.<br>Risk remains medium if extra control measures are followed | | | | | | | |

## COSHH Assessments

There are no COSHH assessments associated with this risk assessment.

## Reference Documents

• Hot Work Standard - Loss Prevention Assoc. and Insurance Ind. -

Ends