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| **Site / Area:** | |  | | **Date of assessment:** |  | **Risk Assessment #:** | **057RA** |
| **Completed by (name):** | |  | | **Signature:** |  | | |
| **In Consultation with** | |  | | **Signature:** |  | | |
| **Identify / describe activity, equipment, area or event you are assessing:** | | | | | **LASER CUTTER** | | |
| **In conjunction with this risk assessment, training / education and development of a relevant SOP may be required.** | | | | | | | |
| **Step 1:** **Identify the hazard/s:**What do you believe are the hazards?(Refer Risk Assessment Guideline (015G)) | | **Step 2: Assess the risks:**  What do you believe are the risks?  (Refer *Risk Assessment Guideline (015G)*) | | **Step 3: Reducing the risk:** What do you believe can be done to reduce the risk? (Refer *Risk Assessment Guideline (015G)*) | | |
| **What could cause harm?** | | **What could go wrong?** | | **Controls** | | |
| **Radiation**   * Laser beam | | * Injuries to eye/skin * Burns | | * Fans and access hatches interlocked so that the laser is isolated in the event they are opened. * Opening of electrical enclosures and maintenance will only be carried out by a competent laser service engineer with the equipment electrically isolated * Any changes in the behaviour of the machine during operation must be reported immediately. * Equipment is classed as a class 1 laser device and safe under normal use. NB Laser will device will become a class 4 device if any of the interlocks or safety features are bypassed. * Students will be supervised at all times by a competent person when using this equipment. * Operator work zones clearly identified. * SOP available and displayed. * Signage in place to indicate Laser use * See the source image * In the event of any signs of damage or malfunction, all work must stop immediately and the equipment isolated. | | |
| **Hazardous Chemicals (Fumes)**   * Generated due to inappropriate material use | | * Inhalation | | Extraction fan installed. / Local Exhaust Ventilation (LEV) attached to laser so that all fume is removed.Listing of suitable materials that can be used in the laser cutter displayed near the unit.PVC (polyvinyl chloride) must under no circumstances be processed with the laser | | |
| **Airborne Contaminants**   * Smoke (particulates created during operation) | | * Inhalation | | Extraction fan installed.Listing of suitable materials that can be used in the laser cutter displayed near the unit.Any changes in the behaviour of the machine during operation must be reported immediately. | | |
| **Electrical**   * Fire (electrical / material) | | * Burns * Death * Smoke inhalation | | Fire extinguisher availableVisually inspected prior to each use. Machine not to be left unsupervised when in use.Air intake vents must never be obstructed.Only suitable materials are to be engineered by the laser cutter.Machine to be taken out of use if damagedAny changes in the behaviour of the machine during operation must be reported immediately.Do not store any flammable material inside the device or immediately near the deviceLeftovers from produced materials to be cleared up immediatelyEquipment must never be left unattended when in use.In the event of any signs of damage or malfunction, all work must stop immediately and the equipment isolated. | | |
| **Electrical**   * Frayed / loose cords * Overheating equipment | | * Electric shock * Electrocution * Fire | | Equipment isolated from main electricity supply when not in usePlant is tested and tagged.RCD’s available and checked on a regular basis. | | |
| **Hazardous manual tasks**   * Sustained or awkward postures | | * Sprains / strains | | Machine is securely fixed into position | | |
| **Other** | |  | |  | | |

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| **Authorised by:** |  | **Signature:** |  | **Date:** |  |

**Review hazard/risk assessment if task or circumstances change and at intervals appropriate to the level of risk (minimum 5 years).**

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| **Step 4: Monitor & review:**  (Refer to hazard sheet)  **Please tick Yes or No** | | | | | | | | |
| **Were the controls effective?** | | | | **Were there any unforeseen hazards/ incidents?** | | | | **New controls** |
| **Yes** |  | **No** |  | **Yes** |  | **No** |  |
| **DETAILS** | | | | **DETAILS** | | | | **DETAILS** |
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| **Name:** |  | **Signature:** |  | **Date:** |  |