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| Title of Assessment | PRETAMAG EPSRC Research Project |  Date of assessment | 6th January 2016 |
|  |  |  |  Date for review |  |
| Department | Physics |  |  |
|  |  |  |  |  |
| Descriptions of Activities | Risk assessment for the work related to the project of Santosh Kumar |
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| Name of those working to this assessment | Santosh Kumar | Any others who may be affected by this assessment |  |
| Assessment carried out by | Santosh Kumar |  |
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| Additional information |  |

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| **Foreseeable Significant Hazard** | **Existing control measures** | **Inherent Risk** | **Additional control measures** | **By whom & when**  | **Controlled Risk Level**  |
| **Arc Furnace – Touching furnace while switched on may cause severe burns** | The equipment is water cooled and has appropriate safety guards in place. | Severe | Ensure equipment has cooled to room temperature before. | Operator when removing sample from furnace. | low |
| **Arc Furnace – Looking directly at the arc can cause blindness** | There is a UV around the lab area to protect people outside lab as well as a UV shield directly in front to protect user. | Major | Make people who are in the lab aware that machine is in operation. | Operator, assistant, other personnel passing the lab during operation. | low |
| **Filling Nitrogen Dewar – Coming into contact with cryogen/frozen framework** | Instructions in handling given. Safety equipment such as insulating gloves worn. | Severe |  | Operator when filling nitrogen. | Low |
| **Filling Nitrogen Dewar – Oxygen depletion leading to asphyxiation** | Nitrogen fills are carried out either outside or in a well ventilated area with O2 detectors. | Major |  | Operator and other personnel in close vicinity when filling nitrogen. | Very low |
| **Use of PPMS/MPMS/VSM - Large Magnetic Fields** | Warn people entering the room. Have clearly visible signs on all doors. | Severe | All the rooms have key code locked doors. | Operator and other personnel near equipment when in use. | Very low |
| **Use of PPMS/MPMS/VSM - Cryogen Transfer - Oxygen depletion leading to asphyxiation** | All the rooms are large and well ventilated. | Major |  | Operator and other personnel in close vicinity when making the transfers. | Very low |
| **Use of PPMS/MPMS/VSM - Cryogen Transfer – Contact with cryogen/frozen framework** | Instructions in handling given. Insulating gloves are worn. | Severe |  | Operator when transfer taking place. | low |
| **Handling chemicals – poisoning or physical harm** | Wear safety gear - gloves, eyeguards, etc as detailed previously. No food or drink near chemicals, especially when being handled. Wash hands after handling samples. Do not leave sample tubes open and unattended, or unlabelled. Read and file away safety sheet that comes with chemicals when purchased. | Major |  | Operator when handling chemicals. | Very low |

**Work should not be carried out until the assessment is completed to a suitable & sufficient level and all required control measures are in place.**

Is assessment suitable and sufficient Yes

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| Any further actions required to allow work to commence |  |
|  |  |  |  |
| Approved By |  |  | Position |  |
| Date |  |  |  |  |

Please print a copy, sign it and keep for your records

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|  | **Severity of injury** |  |  |
|  **Likelihood** | **Superficial**  | **Minor** | **Serious**  | **Major** | **Extreme** |
| Unlikely | **Very low** | **Very low** | **Low** | **Low** | **Moderate** |
| Possible  | **Very low** | **Low** | **Low** | **Moderate** | **High** |
| Likely | **Low** | **Low** | **Moderate** | **High** | **Very high** |
| Very likely | **Low** | **Moderate** | **High** | **Very high** | **Very high** | **Overall Risk Rating** (highest level found) | **low** |
| Extremely likely | **Moderate** | **High** | **Very high** | **Very high** | **Very high** |

*See ‘Matrix for risk evaluation’ for further guidance.*