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| --- | --- | --- | --- | --- | --- |
| Group Number: | 22 | | Submission Date: |  | |
| Group Members: | Subhi Alsous | Aarambh Sinha | Osama Othman | Marlon | Abdullah Akhtar |

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| Activity | Hazard | Who Might Be Harmed And How | Control Measures | Severity | | | Potential | | | Score  (Severity x Potential) | Result[[1]](#footnote-1) |
| L | M | H | L | M | H | L=1, M=2, H=3 |  |
| Charging the generator and other components in lab with high voltages | A short circuit to ground from one of the components may occur and hence dangerously high current will flow to the wrong place and will destroy circuit. | Individuals present in the lab during charging or when short circuit occurs | Automatic safe shutdown controls incorporated into the generator circuit to ensure current doesn’t overload |  |  | 3 | 1 |  |  | 3 | A |
| Filling busbar with NOVIC 4710 gas | Colourless Gas replaces air, very toxic when inhaled and may cause frostbite if comes in contact with eyes or skin. | Anyone close to the busbar by inhaling the gas | Gas bursting disc allows release of gas to avoid busbar bursting. Very high ceiling ensures amount of gas minimal compared to the lab. | 1 |  |  |  | 2 |  | 2 | A |
| Placing resistors for generator at high heights and connecting wires between elevated points | Falling from significant height | Person replacing the resistors or wires by falling | Safety helmet required along with safety ropes to prevent falling | 1 |  |  |  | 2 |  | 2 | A |
| Walking around the lab | Tripping and Falling on hard surface. | Anyone in the lab by tripping | HV laboratories kept free of all obstructions and kept clean. Trailing leads are as short as possible, run flat on the floor | 1 |  |  | 1 |  |  | 1 | T |
| Checking the pressure level of busbar | Gas bursting disc fails at giving correct reading and explosion occurs | Everyone in the building | Multiple bursting discs fitted, all with high reliability and accuracy |  |  | 3 | 1 |  |  | 3 | A |
| Using key to energize and deenergize room | If key is not held always by same person, others could energize the room while the room isn’t empty | Anyone present in the room during energizing, harmed by electrocution | All individuals in the laboratories are aware of all experiments in progress |  |  | 3 | 1 |  |  | 3 | A |
| Entering room after deenergized | If not grounded, static electricity may seriously harm the person | Person entering room immediately after deenergizing, harmed by electrocution | All experiments safely always earthed down when not energised, verified by multiple personnel |  | 2 |  | 1 |  |  | 2 | T |
| Monitoring the voltage of the generator and other machines using voltage divider bushing | If bushing is faulty, voltage reading maybe false so voltage of components may be too large that they damage equipment | Individuals present during the monitoring process | Automatic safe shutdown controls incorporated into the test circuit control circuit |  | 2 |  |  | 2 |  | 4 | A |
| Walking below heavy weights suspended at high heights | Posts and wires holding the weights could be faulty and hence the weight could fall freely | Anyone walking directly below the heavy equipment | Wear helmets at all times, regular daily wire checks are made |  | 2 |  | 1 |  |  | 2 | T |
| Construction of voltage divider | Human mistake could short voltage divider to ground | Anyone available in the room, harmed by electrocution | Gas insulation available to forbid shorting to ground |  |  | 3 | 1 |  |  | 3 | A |

We confirm that all group members participated in the production of this risk assessment: Yes / No

1. T=trivial risk (very low risk activities where the hazard is insignificant), A=adequately controlled and no further action required, N=not adequately controlled, actions required [↑](#footnote-ref-1)