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| **Serial**  **No.** | **Sub-Activities** | **Hazards Identified**  **(Generic & Task)** | **Risks Involved**  **(People & Property)** | **Risk Rating** | | | **Control Measures** | **Residual Risk** |
| **Severity** | **Probability** | **Initial Risk** |
| 1. | Prepare work area | Unauthorized, untrained workers | Cuts  Abrasions | 2 | A | L | * TBT/DSTI to be conducted by the foreman/ safety officer prior to work commencement * Task specific safety training to be provided * Authorized personnel to undertake the job * Daily safety inspection should be carried and eliminate the hazard. | Low  (ALARP) |
| 2. | Manual Handling | * Incorrect lifting of loads * Sharp edges. * Placing the object while fingers underneath. * Slip/trip/fall ( same level ) * Unsafe posture | * Back Injuries * Cut to finger * Strain * Musculoskeletal Injuries | 3 | C | M | * Any lifting tasks shall be carried out by persons physically capable to do so * No employee should be asked to carry loads above his capacity and in any case no load shall exceed 30kg per man. * Mass of the load is more then to be equally shared * Deploy enough number of personnel for lifting task depending upon the type of load to be lifted. * Use easy mode of transport like trolley etc. * Load not to be lifted above your shoulder height * Keep your fingers away from pinch point while placing the load * Area to be illuminated with adequate lighting. * Proper personal protective equipment’s to be used while manual handling of materials and loads. | Low  (ALARP) |
| 3. | Working with Hand tools ( screw driver, spanner ) | * Slip, trip and fall * Damaged warn out hand tools * Flying objects * Mushroom Heads * Using incorrect type | * Fatigue * Trigger finger * Cuts and abrasions | 3 | C | M | * Defective tools should not be issued or used to perform the task, to be checked by store keeper * Don’t extend the spanner by using a pipe as an extension bar * Hand tools shall be free from oil, grease etc. * Chisel’s head shall have safety cap to avoid finger injury. * Never use a file as a lever * Never use a screw driver as a chisel * Use eye/ face protection when there is flying materials hazard, wear gloves while required to protect the hands * Use right tools for the job | Low  (ALARP) |
| 4. | Working with ladder | * Person/ material falling from height * Over reaching * Over loading * Obstructing the access way * Slippery or uneven surface | * Sprain and strain * Fracture * Injury to the person | 3 | C | M | * The ladder should extend minimum one meter from the top for safe movement * Heavy materials should not be carried * Do not erect in slippery, uneven surface should be set up with a 4 vertical to 1 horizontal slope ( 4:1 ) * Inspection and maintenance to be registered and recorded by the store keeper * Step ladder must fully open and lock and the devices to be as per manufacturer * Defective ladder should not be used and report it immediately * Do not work from the top of two rungs * Remember the 3 point contact * Do not work in front of the door. If work is carried then locked the door or blocked off * Ladder to be used for short duration works only limited to 15 min. * Color coded system to be implemented | Low  (ALRP) |
| 5. | Working on mobile scaffold | * Uneven surface * Overhead structure and cable * Materials and worker fall from height * Untrained, unauthorized workers * Collapse of scaffold | * Sprain and strain * Fracture * Spinal cord damage * Musculoskeletal Injury * Fatality | 3 | C | M | * Do not stack materials on to the scaffold * Visual inspection should carry before use * Out rigger fitted and breaks are locked on * Only trained scaffolder shall be involved in erection & dismantling activities. * No person to be on the scaffold while it is being moved * Scaffold only use in on level and surface area * Safety harness to be used above 2mtr height and anchored in above shoulder height at all time * Tagging system to be implemented ( i.e., all safe scaffolds shall be provided with green tags and unsafe scaffolds with red tag ) * Keep walkways free of obstacles, tools and equipment * Never stand and sit on the hand rails | Low  (ALARP) |
| 6. | Working with electricity | * Electricity * Conductors ( water, metal, concrete ) * Broken wires * Improper plug, case * Overloading | * Electrocution or death * Burns and shocks * Muscle contraction * Heart, lung Paralysis * Fire | 4 | B | M | * Only those persons who have been adequately trained and experienced in the work of electricity to allow for the same. * Electrical work shall not carry out in wet Conditions. * LOTO procedure to be followed during testing & commissioning. * Do not overload to the circuits. * Communicate to all personnel about testing & commissioning. * Don’t use homemade electrical accessories and use industrial type only. * Disconnect main supply before commencing the work. * Defective tools and equipment should not be used, report it and replaced it immediately. * Barricade the location and signage to be placed where circuits and equipment’s are energized. * PPE should be worn at all-time where working in energized circuits. ( Insulated gloves, Electric resistivity shoe ) | Low  (ALARP) |
| 7. | Electrical Testing & commissioning using millimeter, insulation tester | * Unauthorized/ untrained Person * Faulty Instrument * Improper identification * Electrocution | * Electric shock and Burns * Cut and abrasion | 3 | B | M | * PTW system shall be applied and implement. * Competent team shall be involved to execute the activities. * Calibrated / certified instrument only shall be used. * Ensure that the circuit is not live before using the instrument. * Emergency procedure shall be briefed to all personnel prior to start the activity. * Emergency evacuation plan shall be readily available according to site condition and briefed to the workforce prior to start. * Emergency contact numbers shall be displayed at work location for easy communication * Trained first aider, fire warden and emergency vehicle to be available at the site during the activity. * Communicate to all personnel about testing & commissioning. * Warning signs and boards should be provided and area to be well barricaded * Appropriate PPE shall be worn at all times. | Low  (ALARP) |
| 8. | Working in hot weather | Heat Stress | * Dehydration * Sunburn * Skin Cancer | 2 | B | M | * Drink plenty of water * Employees shall be trained about heat stress symptoms & first aid measures. * Avoid highly physical tasks during the hottest part of the day * Isotonic drinks to be provided * Provide sufficient rest breaks based on the humidity & temperature conditions | Low  (ALARP) |
| 9. | While working at night shift | * Poor illumination * Slip/trip/fall | * Fatality * Cuts | 3 | B | M | * Proper illumination to be provided light post to be secured from fall * Proper cable management system to be followed * All materials to be staged in proper manner without obstacles | Low  (ALARP) |
| 10. | Work Completion | * Poor housekeeping * Slip/trip/fall | Fire | 2 | A | L | * General housekeeping, Remove all surface, unwanted waste materials from the building * All necessary precautions will be adopted to prevent fire | Low  (ALARP) |

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|  |  | **RISK MATRIX** | |  | Probability | | | | | |
|  |  |  |  |  | A | B | C | | D | E |
| Severity | People | Assets | Environment | Reputation | Improbable  1 in 100,000  Years | Remote  1 in 10,000  Years | Occasional  1 in 1000  years | | Probable  1 in 100 years | Frequent  1 in 10 years |
| 5-Catatrophic | Multiple fatalities or permanent total disabilities | Extensive damage | Massive effect | International impact |  |  | | | | |
| 4-Severe | Single  fatalities or permanent total disabilities | Major damage | Major effect | National impact |  | | | **High Risk** | | |
| 3-critical | Major injury or health effects | Local damage | Localised effect | Considerable impact |  | **Medium Risk**  **(ALARP)** | |  | |  |
| 2-Marginal | Minor  injury or health effects | Minor damage | Minor effect | Minor impact |  |  | | |
| 1-Negligble | Slight injury or health effects | Slight Damage | Slight effect | Slight impact | **Low Risk** | | |  | |

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| HIGH | **3-E**  **4-C,D,E**  **5-B,C,D,E** |
| MEDIUM | **1-D,E**  **2-B,C,D,E**  **3-A,B,C,D**  **4-A,B**  **5-A** |
| LOW | **1-A,B,C**  **2A** |