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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Delivering, unloading and storing of Cable/wire Drums materials using pickup and unloading by manual handling and using Forklift for heavy load. | **Plant and Traffic movement**   * Run over by vehicles/plants * Hit by reversing equipment * Overhead obstructions * Vehicle break down * Property damage * Collision with other vehicles * Personal injury * Fatality   Accident due to poor lighting and visibility (operation at night | Operatives  Staff/visitors | 4 | 4 | 16 | High | 1. Delivery/ collection drivers shall be subject to McLaren induction/Training with regards to traffic management. 2. Ensure exclusion zone is set up around the preparation work area and all plant movement and checked by supervisor 3. Always use the pedestrian access provided 4. Traffic light batons shall be provided for banks man at night 5. All plant to have a fully trained banks man present all times. 6. No plant to reverse without banks man. 7. Ensure access route are sufficient and safe to use. 8. Do not take rest in or under vehicles 9. Proper barricade and safety signboard provided on open excavation 10. All vehicles must be fitted with reverse alarm / Flashing light. 11. The work place and all access to be well illuminated. 12. Ensure close supervision, Effective Communication & Coordination with McLaren 13. Enforce Speed limit 14. Ensure all vehicles entering the site is properly maintained and reported if found any defect 15. Ensure materials are secured/tied in pallet trolley to avoid fall from trolley. 16. STARRT card briefing must before start the activity. | 1 | 4 | 4 | Low | Site Eng.  Supervisor, Foreman, |
| 2 | Manual Handling | * musculoskeletal disorders, * Hand injuries, * cut & bruises * Sharp edges | Operatives involved in work | 3 | 4 | 12 | Medium | 1. Eliminate the need for manual handling by using mechanical aid. 2. Adequate manpower if load is more. 3. Ensure proper manual handling procedure 4. Ensure appropriate PPE. 5. Ensure individual load carrying only 20kg per person 6. Supervisor must make sure while manual handling load individual task and environment to be considered to reduce the risk of manual handling. 7. During manual handling take precaution for armoured cable both end sharp edge. | 1 | 4 | 4 | Low | Supervisor, Foreman, Site Eng. |
| 3 | Unloading of cable drum using Forklift | * Over Loading * Lifting Failure * Unstable support * Physical Injury/fatality * Poor illumination in night work * Poor Weather | Operators,  Workers/  Helpers  Foreman | 4 | 4 | 16 | High | 1. Site supervisor will monitor the activity and should be aware of AMC site safe system of work and premises rules. 2. Loading /unloading load should be controlled by competent person and strictly follow SWL(Safe Working Load) 3. Workers should away from the lifting area and must be barricaded with caution signage and banksman must be active on work. 4. Store yard/access to be inspected prior to activity. 5. Only 3rd party certified lifting gears/plant equipment’s are to be used 6. Ensure forklift must have reverse alarm and beacon light. 7. Load must be secured and ensure safe height of Forklift mast to avoid visible obstruction of operator. 8. No unloading activity will carry if high wind, rain or poor visibility.      1. Enforce speed limit 2. Forklift operator, rigger and banksman’s must be competent and certified by 3rd party.      1. Overload cut off device will be inspected 2. Tool box talk will be providing before starting the activity and risk assessment must briefed to the work force. 3. Operatives must have PPE and high visible vest. 4. Pedestrian access to be followed 5. Fire extinguisher must be inside cabin. | 1 | 4 | 4 | Low | Supervisor, Foreman,  Site Eng. |
| 3 | Material storing | * Slips * Trips and fall * Poor house keeping | Operatives  Staff/storekeeper | 3 | 4 | 12 | Medium | 1. Ensure accesses are kept clear at all times. 2. Housekeeping to be carried out regularly throughout the day when required 3. Supervisor to ensure operatives are stacking material neatly and stacks are stable and in a safe condition 4. Provide adequate lighting especially during night hours 5. Appropriate space is allowed around storage areas for employees to move around safely without the risk being trapped between stacked materials. 6. Maintain good housekeeping. | 1 | 4 | 4 | Low | Supervisor, Foreman, Site Eng. |
| 4 | Cable/wire pulling (Manually)  into GI/PVC conduits | * Back pain, * Lump injury * Bruises, * Slipping Hazard * Property damage * Personal injuries * Eye, Hand and skin irritations | Cable pulling group | 3 | 4 | 12 | Medium | 1. Manual pulling of cable shall be performed in a slow and study manner 2. Any return back movement due to slipping of cable/wire or tension shall be immediately stopped and precautionary measure shall be adopted. 3. Work areas should be clear from unwanted materials that are scattered everywhere   .   1. Always wear suitable hand gloves during cable/wire pulling. 2. Take a rest every time it is needed. 3. Workers are to be aware of uneven ground and natural tripping hazards. 4. Competent supervision shall be ensured. 5. Barricade the area with caution/warning signage 6. Tool box talk will be conducted before starting activity 7. Provision of welfare facility on site 8. Risk Assessment must be briefed to the operatives | 1 | 4 | 4 | Low | Supervisors, Foreman, Site Eng. |
| 5 | Cable Pulling/Laying on cable tray and trunking using Mobile Tower | * Slip * trip * cut * bruise   Fall from height   * Falling objects * Protruding objects * Sharp edge | Cable pulling group | 3 | 4 | 12 | Medium | 1. Ensure Proper supervision and skilled workers will be deployed for the activity. 2. Hand gloves must use to protect from sharp edge object. 3. Work area must clean and free from obstruction 4. Ensure the PTW in place and task briefing by supervisor to work force. 5. Ensure proper working platform with complete fall protection 6. Secure the tools and objects kept on the platform 7. Ensure safe access to the working platform. 8. Ensure Full body harness and 100% tie off 9. Ensure the scaffold platform is properly erected with "Safe to use" tag. 10. Ensure castor wheels are locked and out Riggers are in place. 11. Cable pulling crew must have clear instruction by supervisor and close communication 12. Ensure armoured cable pulling activity, jacks are placed suitable location and is properly supported. 13. Hydraulic Jacks shall be tested and certified by 3rd party is to be ensured. 14. Ensure jack and spindle will use properly to smooth cable pulling 15. Ensure jack/rollers are properly maintained and is good working condition. 16. Ensure Housekeeping done 17. Don’t move scaffoldings while personals are on board. | 1 | 4 | 4 | Low | Site Eng.  Supervisor  Foreman |
| 6 | Working under  High temperature  Direct sun light  Dusty  High wind | * Heat exhaustion. * Heat stroke * Dehydration * Personal injuries   due to high temperature, Burn, Tiredness | Workers | 4 | 4 | 16 | High | 1. Arrange adequate drinking water and rest shelter 2. Drink plenty of water with electrolyte 3. If feel something unusual immediately inform supervisor and report to site clinic. 4. Make shift to operate the routine work 5. Do not allowed alone work 6. Frequent breaks 7. Proper supervision available 8. Correct PPE must use 9. Provide heat stress training 10. Conduct tool box talk 11. Proper signage for drinking water | 1 | 4 | 4 | Low | Site Eng. Supervisors, Foreman |
| 7 | Working at night time | Poor visibility due to darkness / poor illumination  Lone worker | Operatives/staff | 3 | 4 | 12 | Medium | 1. Ensure proper night work permit is obtained 2. Proper lighting system should be in place 3. Ensure proper Communication / Coordination and close supervision 4. Industrial safe torches to be available for emergency situations 5. High visibility Traffic Vest for personnel’s in night shift 6. Avoid lone working and always ensure buddy system while working at night 7. Employees to be trained and understand McLaren Crises plan. | 1 | 4 | 4 | Low | Site Engr  Supervisor  Foreman |
| 8 | Use of Hand tools | Improper selection of hand tools.  Damaged and Defective Hand tools  Hand injuries  Pinch point  Ergonomics  Repetitive strain injury | Operatives/Staff | 3 | 3 | 9 | Medium | 1. Hand tools should be visually inspectedfor defects, prior to use. 2. Never use damaged, blunt or broken tools to avoid injury. 3. Select right tools for right Job 4. Ensure no Homemade or makeshift tools to be used at site 5. Remove from service any tool that shows signs of damage or defect 6. Ensure Hand tools are Stored in accordance with the manufacturer’s instructions. 7. Ensure hands are not in direct line of fire while working with hand tools 8. Ensure appropriate PPE at all times**.** | 1 | 3 | 3 | Low | Site engg  Supervisor  Foreman |

Approved By: Name Position \_\_\_\_\_\_\_\_\_\_ Signature \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

**RISK ASSESSMENT & CONTROL GUIDELINES**

1. **Executing Steps:**
   1. **Planning**
2. Construction and HSE team must ensure that hazard identification is complete.
3. Construction and HSE team must prioritize the hazard issues, which are of significant in nature. (It means that risks have well established legal requirements, potentially high risks).
4. Construction and HSE team to prepare the risk assessment plan for the priorities identified hazards for these potential high risks.
   1. **Risk Assessment**

Risk is the probability of an event occurring in a given set of circumstances. The ‘event’ is an exposure to hazard. The hazard is the potential to cause harm. The risk assessment is the technique of evaluating not just the likelihood of an event occurring, but also the outcome will be in terms of injury, loss, damage or harm.

* 1. **Risk Assessment Process**

The process of carrying out a risk assessment should be as follows.

1. Identify the hazards.
2. Identify who might be harmed and how.
3. Evaluate the risk and implement the control measures.
4. Record the significant findings.
5. Review the assessment and update if necessary.
   1. **Examination of the Hazards and Risk Associated**

* Competent staff must be used in examining the risk associated with the identified hazard.
* Competent staff should examine following aspect to determine the risk involved:
* Examine the existing control measures in place.
* Identify employees at risk.
* Likelihood of risk.
* Severity
* Risk level and their tolerability.
  1. **Evaluating the risk:**

Once the necessary information has been obtained on the hazards encountered by work activities, next stage is to access the risks.

* + 1. **Risk Rating Score**

Risk rating score is a combination of two factors.

* The severity of the risk that could injure persons or cause damage to plant.
* The likelihood of the risk that it could happen (Probability).

**RISK RATING = LIKELIHOOD X SEVERITY**

**NOTE: Each activity has to be assessed for the risk value for determining the level of Severity and likelihood are mentioned in the table below.**

**SEVERITY**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **No Injury (1)** | **Minor Injury (2)** | **Moderate Injury (3)** | **Major Injury (4)** | **Catastrophic (5)** |
| **Rarely (1)** | **1** | **2** | **3** | **4** | **5** |
| **Unlikely (2)** | **2** | **4** | **6** | **8** | **10** |
| **Possible (3)** | **3** | **6** | **9** | **12** | **15** |
| **Likely (4)** | **4** | **8** | **12** | **16** | **20** |
| **Almost Certain (5)** | **5** | **10** | **15** | **20** | **25** |

**LIKELIHOOD**

**RISK LEVEL:**

|  |  |  |
| --- | --- | --- |
| **Low** | **Medium** | **High** |