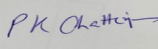

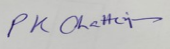
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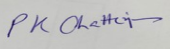
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1	Delivering, unloading and storing of Pressure test equipment's using pickup van and unloading by manual handling and shifting by using pallet trolley	<b>Plant and Traffic movement</b> <ul style="list-style-type: none"> <li>Run over by vehicles/plants</li> <li>Hit by reversing equipment</li> <li>Overhead obstructions</li> <li>Vehicle break down</li> <li>Property damage</li> <li>Collision with other vehicles</li> <li>Personal injury Accident due to poor lighting and visibility (operation at night)</li> </ul>	Operatives Staff/visitors	3	4	12	Medium	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	1	4	4	Low	Site Engr Supervisor Foreman
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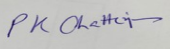
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								defect 15) Ensure materials are secured/tied in pallet trolley to avoid fall from trolley. 16) Do not ride or horse play with pallet trolley.					
2	Manual Handling	musculoskeletal disorders, Hand injuries, cut, bruises Sharp edges	Operatives involved in work	4	3	12	Med ium	1) Eliminate the need for manual handling by using mechanical aid. 2)Reduce the weight of a load to limit force exertion 3) If unsure of the load weight, check with supervisor. 5)Ensure proper manual handling procedure 6) Identify and eliminate sharp edges before any manual lift 7) Ensure adherence with sufficient and appropriate PPE. 8) Limit load carrying to 20kg per person 9) Supervisor must make sure while manual handling load individual task and environment to be considered to reduce the risk of manual handling.	1	3	3	Low	Supervisor, Foreman, Site Eng.

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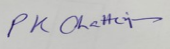
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3	Material storing	Slips, Trips and fall Poor house keeping	Operatives Staff/storekeeper	3	4	12	Medium	1) Ensure accesses are kept clear at all times. 2) Housekeeping to be carried out regularly throughout the day when required 3) Supervisor to ensure 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		High-pressure leak of water & Flooding Explosion Failure of test pump Electric shock with Motor Electrocution Unintended release of stored energy.	All operatives involved in work	4	4	16	High	1 Risk assessment must brief to the operatives. 2 Ensure permit obtained for pressure test. 3 All pressure tests must be conducted with due regard for the safety of life and property. 4 Area must be barricaded with caution signage. Precautions should be taken to see that people not directly engaged in the testing operations remain out of the test area during the test period. 5 Check that all high points have a tap or vent to facilitate removal of air during filling and that these are all closed. 6 Blank, plug or seal any open ends and close all valves at the limits of the test section of the	1	4	4	Low	Site eng Supervisor Foreman

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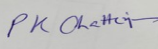
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8	Pressure Testing							piping. 7 Start to fill the piping and then 'walk' the route of the piping under test, continuously visually checking for leaks and by listening for the sound of escaping air 8 Release air from all the high points systematically through the system to completely fill it with water 9 Check that the test gauge is functioning correctly has been calibrated and has the correct range of the test pump. 10 Check that a suitable hose is available for draining the system 11 Before attempting test, Supervisor will review the test specifications and procedures with the Test Inspector and any other relevant personnel to be certain that all equipment is adequate, and duties are organized and understood 12 All the electric live service must be temporary isolate to avoid electric shock and electrocution 13 All test connectors are subject to cyclic loading, both from the pressure test application and from tightening torque loadings. Fatigue is a factor that must be addressed when test connectors are being inspected and assessed for continued use. Some signs of fatigue are clearly visible and measurable (deformed threads), and					
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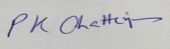
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10								some are not 14 PPE must in use with face shield 15 Ensure proper grounding and earthing After completion of the pressure test, release the water and disconnect all the temporary connections and close both ends 16 Exclusion zone must be removing and remove the danger signage after completion of pressure test. 17 Operatives must be wear necessary PPE. 18 At the end of the Fire Hose reel test, the hose reel is cleaned and rewound. Make sure before leave the site area must be cleaned and tidy. 19 During Fire hose reel testing make sure caution signage in visible with Pressure rate.					
5		<ul style="list-style-type: none"> <li>Spillage/ soil contamination</li> <li>Burns</li> <li>Contact with skin</li> <li>Acute/Chronic adverse health effect.</li> <li>Fire</li> </ul>	Operatives using solvent	3	4	12	Medium	1 Ensure that all chemical substances have a COSHH assessment 2 Refer SDS prior to any handling of hazardous substances and ensure SDS is easily accessible at site while working with chemicals. 3 Ensure chemicals are properly stacked. 4 Ensure all chemical containers are properly labeled. 5 Spill kits to be available at site. 6 Ensured all COSHH waste must be dispose in designated waste bin.	1	4	4	Low	Supervisors Foreman, Site Eng.

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	Use of Glue/Paint Solvent, (Hazardous Substance)							7 Competent person to oversee the storage, use and disposal of hazardous materials. 8 Ensure that correct welfare/first aid facilities are available in the area i.e. washing facility/eye wash. 9 Proper and adequate PPE to be used always 10 Ensure all chemical containers are properly labeled. 11 Adjust work schedules so that workers are not overexposed to a hazardous chemical. 12 Ensure proper and adequate PPE to be used always. 13 Ensure smoking is prohibited 14 Ensure appropriate Firefighting equipment's are in place and easily accessible					
6	Working in poor visibility/dust condition	Physical injuries, Slips, trips & falls, Health effects – eye damage/respiratory diseases.	All personnel in the work area	3	4	12	Medium	1. Prepare the working area for a good working condition. 2.All workers should wear high visibility vest and PPE 3. Ensure that the working area is well-ventilated. 4.Wear goggles & face mask when working in a dusty place 5. TBT conducted by supervisor. 6.First aider and first aid kit available on the site 7. Ensure that work area must have proper illumination	1	4	4	Low	Site Eng. Supervisors, Foreman


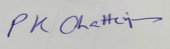
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7	Working on ladder	Falling from height Collapse of ladder	All involved in work	3	4	12	Medium	8. Maintain good house keeping 1 Only light work, off short duration and work in which the operative can maintain secure hand and foot hold can be undertaken form a ladder 2 Never try to overreach with any ladders 3 Check the ladder is of suitable quality for industrial use and is in good condition 4 Check the inclination of the ladder conforms to the one-in-four rule. 5 Maintain a minimum of 3 points of contact with stepladders always (feet/thighs/hands) 6 If possible avoid the use of stepladders at a working height of 2 meters and more. 7Check the ladder legs (and stays) are fully deployed or locked (depending on type) to maintain maximum base dimensions and the step ladder is orientated to provide maximum stability. 8 Ensure that during using ladder from the top 2 steps is blocked to avoid climb on that. 9 The ladder securely fixed to prevent slipping outwards or sideways or securely footed at all times. 10 Person must hold the ladder while another operative working on it 11 Materials should not be placed above the thread of ladders/step ladders	1	4	4	Low	Supervisor Foreman, Site Eng.
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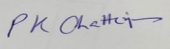
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								12 Ensure using podium type ladder to reduce the risk.					
8	Use of power tools such as, Drill machine,	Damaged cable insulation, Sockets. Electrocutation Electric shock Short circuit Trip/Fall Noise Hearing loss Vibration Dust	Operatives and staff	3	4	12	Med	1) All portable electrical equipment must be PAT tested and color coded. Make sure the test dates are visible on the equipment. 2)Ensure all power tools 110 volt and maintained 3) PTW to be obtained, prior to commencing the task 4) Damaged industrial sockets and power cables must be removed. 5) Ensure the electrical cable is not damaged and has not been repaired with insulating tape or unsuitable connectors. 6) Ensure cables from power tools shall be organized so as not to present a tripping hazard 7) Only trained competent operatives to operate the power tools. 8) Ensure proper and regular maintenance of equipment that takes account of noise 9) Ensure proper hearing protection always. 10) Make sure people use the right tool for the job and are trained to use it correctly 11) Ensure defective tools that require maintenance is reported for repair or	1	4	4	Low	Supervisor Foreman Site Eng.




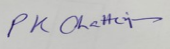
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								replacement. 12) Instruct workers to keep their hands warm and dry, and to not grip a vibrating tool too tightly. Workers should allow the tool or machine to do the work. 13) Ensuring proper job rotation and limiting time operatives working with power tools and hand tools. 14) use dust mask					
9	Use of Hand tools and Testing kit	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 inspected for defects, prior to use. 2) Competent certified Engineer must use testing kit 3) Select right tools for right Job 4) Ensure no Homemade or makeshift tools to be used at site 5) All the test kit power connection must be in good condition and no loose connection 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 all the testing kits are calibrated from authorized lab. 9) Electrical Permit need to obtain for using Testing kit if above 110V. 10) Only authorized persons are allowed during	1	3	3	Low	Site Eng. Supervisor Foreman

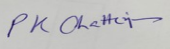
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								testing activity and area must be barricaded with caution signage. 11) Ensure appropriate PPE always.					
10	Working at night time	Poor visibility due to darkness / poor illumination Lone worker	Operatives/staff	3	4	12	Medium	1) Ensure proper 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 close supervision 7) Employees to be trained and understand McLaren Crises plan.	1	4	4	Low	Site Eng. Supervisor Foreman
11	Adverse weather condition	Rain, Sand Storm Fog Slippery surface Risk of electrocution Flying debris, Slip, Tripping and fall	All employee, visitors	4	4	16	High	1 Weather report must be monitored and informed to work force. 2 No activity shall be allowed during adverse weather condition on site 3 Protect the Power tools/DB from rain water to avoid short circuit. 4 Ensure during adverse weather or Foggy weather no lifting operation and no vehicle movement. 5 After clear the weather make sure all power tools are safe to use. 6 No work at height during high wind and rain 7 In case of emergency, call McLaren/Emergency	1	4	4	Low	Site Eng. Supervisor Foreman

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5 Approved By: Name Vishnu Mohan Position PM Signature 

**RISK ASSESSMENT & CONTROL GUIDELINES**

**1. Executing Steps:**

**1.1. Planning**

- a) Construction and HSE team must ensure that hazard identification is complete.
- b) 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).
- c) Construction and HSE team to prepare the risk assessment plan for the priorities identified hazards for these potential high risks.

**1.2. 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.

**1.3. 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.

**1.4. 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.

**1.5. Evaluating the risk:**

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

**1.5.1. 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				
LIK ELI HO OD		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
RISK LEVEL:		Low		Medium		High

