

Plant High Bay LED Lighting Replacement Via Scissor Lift

1.0 Objective & Intent

This SOP defines the safety protocols for replacing high bay LED lighting fixtures using a scissor lift within the plant. The primary objective is to eliminate the risk of falls from height, electrical shock, and crushing injuries during elevated work. Compliance with WorkSafeBC Part 11 (Fall Protection) and Part 19 (Electrical Safety) is mandatory.

This procedure mitigates the specific risks of working at heights above 3 meters (10 feet), handling energized electrical components, and operating mobile elevated work platforms (MEWPs) in a busy manufacturing environment. All personnel involved must be trained and authorized.

2.0 Operational Scope

This procedure applies to all maintenance personnel, electricians, and authorized operators performing high bay LED lighting replacement in the main production hall, warehouse, and assembly areas. It covers the use of scissor lifts with a platform height exceeding 10 feet. This SOP does not cover ladder-based work or replacement of fixtures accessible from ground level.

All scissor lift operators must hold a valid MEWP operator certificate and have completed site-specific hazard training. The procedure is to be used during scheduled maintenance or emergency fixture replacement.

3.0 Hazard Identification & Mandatory PPE

- Fall from Height: Working at elevations above 3 meters (10 feet) without proper fall arrest or guardrails.
- Electrical Shock: Contact with live electrical wiring or components during fixture removal or installation.
- Crushing/Pinch Points: Scissor lift scissor arms, platform edges, and fixture handling during installation.
- Struck-By Hazards: Overhead objects, tools, or fixtures falling from the platform.
- Trip Hazards: Cords, tools, and debris on the scissor lift platform or surrounding floor area.
- CSA-Approved Hard Hat with chin strap (mandatory for all personnel in the work zone)
- CSA-Approved Steel Toed Boots with slip-resistant soles
- Safety Glasses with side shields (or full-face shield if working overhead)
- High-Visibility Vest (Class 2 or higher)
- Full-Body Harness with lanyard (if platform guardrails are removed or if working near edges)
- Leather or Cut-Resistant Gloves (for handling fixtures and wiring)

4.0 Required Safety Equipment & Tools

- Scissor Lift (MEWP) with valid annual inspection tag and operator manual
- Lockout/Tagout (LOTO) Kit with personal padlock, hasp, and danger tag
- Voltage Tester (non-contact or multimeter) rated for the circuit voltage
- Insulated Hand Tools (screwdrivers, pliers, wire strippers) rated for electrical work
- Replacement LED High Bay Fixture(s) with compatible mounting hardware

- Lifting Strap or Rope (for raising/lowering fixtures from the platform)
- Warning Signs and Barricades (cones, tape, or portable barriers)
- Fire Extinguisher (ABC-rated) within 10 meters of the work area
- First Aid Kit (at ground level, accessible to the work zone)

5.0 Step-by-Step Safety Procedure

1. Conduct a pre-job safety briefing with all affected personnel. Identify the specific high bay fixture to be replaced, confirm the circuit breaker location, and review emergency procedures. Ensure all personnel are wearing required PPE.
2. Establish a clearly marked exclusion zone on the floor directly beneath the work area using cones and warning tape. Ensure no unauthorized personnel or equipment enter this zone during the entire operation.
3. Perform a pre-operational inspection of the scissor lift. Check for fluid leaks, tire condition, guardrail integrity, emergency stop function, and that the annual inspection tag is current. Do not use the lift if any defects are found.
4. Position the scissor lift on a stable, level surface. Ensure the lift is at least 3 meters away from any overhead obstructions (e.g., sprinklers, beams) and that the outriggers (if equipped) are fully deployed and locked. Do not operate on slopes exceeding the manufacturer's rating.
5. Isolate the electrical circuit feeding the high bay fixture. Locate the correct breaker in the panel, turn it to the OFF position, and apply a personal lockout/tagout device. Verify zero voltage at the fixture using a non-contact voltage tester or multimeter before proceeding.
6. Ascend the scissor lift to a working height approximately 1 meter below the fixture. Keep the platform fully lowered until you are directly under the fixture. Do not raise the platform while moving the lift. Use the lifting strap to secure the replacement fixture to the platform railing to prevent it from falling.
7. Carefully remove the existing high bay fixture. Disconnect the wiring at the junction box, cap the wires with wire nuts, and lower the old fixture to the ground using the lifting strap. Do not drop the fixture. Place the old fixture in a designated disposal area.
8. Install the new LED high bay fixture. Connect the wiring per the manufacturer's instructions, ensuring all connections are tight and properly insulated. Secure the fixture to the mounting bracket or chain. Verify that the fixture is mechanically stable before releasing any support.
9. Lower the scissor lift to the ground. Remove the LOTO device and restore power to the circuit. Test the new fixture by turning on the switch. Confirm the fixture operates correctly and that there are no flickering or electrical issues.
10. Remove all barricades, tools, and debris from the work area. Conduct a final walk-around to ensure no hazards remain. Document the replacement in the maintenance log and report any near misses or incidents to the safety supervisor immediately.

Regulatory Disclaimer: This document is a generic safety template provided for educational and informational purposes only. It does not constitute professional engineering, legal, or regulatory compliance advice. The end-user assumes all liability for validating all safety protocols against specific machinery manufacturer manuals and local occupational health and safety regulations (e.g., WorkSafeBC, CSA standards) before deployment.