



JOB SAFETY ANALYSIS (JSA)

Activity/Task: Warehouse Electrical Panel Inspection & Maintenance		Date: 04/16/2026
Developed by: Afaq Ahmad (Safety Officer)	Competent Person: Mr Ibrahim Khan	Company Name SafeBuild Engineering Pvt. Ltd.
Job Location: Industrial Zone Phase II, Peshawar, Khyber Pakhtunkhwa, Pakistan	Required Equipment: Digital Multimeter, Clamp Meter, Voltage Tester (Non-contact & contact type), Insulation Resistance Tester (Megger), Circuit Analyzer, Insulated Screwdrivers (Flat & Phillips), Combination Pliers, Wire Strippers & Cutters, Adjustable Wrench (Spanner Set), Lockout Tagout (LOTO) Devices, Arc Flash PPE	
Required Documentation: <input type="checkbox"/> Hot Work Permit <input type="checkbox"/> Confined Space Permit <input type="checkbox"/> MEWP Permit		

REQUIRED PERSONAL PROTECTIVE EQUIPMENT FOR ENTIRE JOB

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|--|---|--|--|
| <input checked="" type="checkbox"/> safety glasses | <input checked="" type="checkbox"/> face shield (+ glasses/goggles) | <input type="checkbox"/> nitrile/chem resistant | <input type="checkbox"/> respiratory protection |
| <input checked="" type="checkbox"/> safety shoes | <input type="checkbox"/> chemical goggles | <input type="checkbox"/> cut resistant gloves | <input checked="" type="checkbox"/> hearing protection |
| <input type="checkbox"/> welding goggles / helmet | <input type="checkbox"/> abrasion resistant | <input checked="" type="checkbox"/> hard hat | <input type="checkbox"/> fall protection harness/lanyard |
| <input type="checkbox"/> leather gloves | <input checked="" type="checkbox"/> Insulated Gloves | <input checked="" type="checkbox"/> Arc-rated clothing | |

Disclaimer: The user, contractor, employer, or project owner is responsible for confirming that the contents of this document appropriately reflect the specific work activities, site conditions, and applicable laws, regulations, and project requirements before implementation. While reasonable efforts are made to provide useful and structured safety information, the provider shall not be liable for any damage, claim, or legal action arising from the use of this document.

JOB STEPS	POTENTIAL HAZARDS	CONTROLS	RESPONSIBILITY
1. Planning and Preparation	1. Inadequate planning leads to unforeseen hazards 2. Incorrect equipment selection 3. Lack of awareness of existing electrical hazards	1. Develop a detailed work plan and JSA before commencing work. (OSHA 1926.32(f), Cal/OSHA 3203) 2. Select the correct tools and equipment for the job and verify they are in good working condition. (OSHA 1926.302(a), Cal/OSHA 2340.2) 3. Conduct a pre-job hazard analysis and site survey to identify and address potential electrical hazards. (OSHA 1910.334(a)(1), Cal/OSHA 2946)	1. Site Supervisor 2. Qualified Electrician 3. Safety Officer
2. Lockout/Tagout (LOTO) Procedures	1. Unexpected energization or release of stored energy 2. Contact with energized electrical components	1. Implement LOTO procedures per OSHA 1910.147 and Cal/OSHA 3314. De-energize and lock out/tag out the electrical panel before any work begins 2. Verify de-energization using a non-contact voltage tester and multimeter before beginning work. (OSHA 1910.333(b)(2)(iv)(A), Cal/OSHA 2946(b)(3)(A)) 3. Ensure all stored energy sources (capacitors, etc.) are discharged before work. (OSHA 1910.333(b)(2)(viii), Cal/OSHA 2946(b)(3)(H))	1. Qualified Electrician 2. Competent Person 3. Safety Officer

3. Visual Inspection of Electrical Panel	<ol style="list-style-type: none"> 1. Damaged or degraded components 2. Loose connections leading to arcing 3. Exposure to energized parts 	<ol style="list-style-type: none"> 1. Visually inspect the panel for signs of damage, overheating, corrosion, or loose connections. (OSHA 1926.404(b)(1), Cal/OSHA 2340.24) 2. Use appropriate PPE including safety glasses, and insulated gloves. (OSHA 1926 Subpart E, Cal/OSHA 3380) 3. If defects are found, report them immediately and do not proceed with testing until the panel is repaired by a qualified electrician. (OSHA 1926.403(b)(2)(i), Cal/OSHA 2320.1(a)) 	<ol style="list-style-type: none"> 1. Qualified Electrician 2. Safety Officer 3. Competent Person
4. Voltage Testing	<ol style="list-style-type: none"> 1. Electric shock from contact with energized parts 2. Arc flash hazards 	<ol style="list-style-type: none"> 1. Use a properly rated voltage tester to verify the absence of voltage after LOTO. (OSHA 1910.333(c), Cal/OSHA 2946(c)) 2. Wear appropriate Arc Flash PPE including a face shield and arc-rated clothing when working near energized parts. (OSHA 1910.335(a)(1), Cal/OSHA 2946(b)(1)) 3. Maintain a safe distance from energized parts, adhering to the established approach boundaries. (OSHA 1910.333(a)(1), Cal/OSHA 2946) 	<ol style="list-style-type: none"> 1. Qualified Electrician 2. Safety Officer 3. Competent Person
5. Insulation Resistance Testing (Meggering)	<ol style="list-style-type: none"> 1. Electric shock from high voltage testing 	<ol style="list-style-type: none"> 1. Use an insulation resistance tester (Megger) to test the integrity of insulation. (OSHA 1926.403(b)(2)(iii), Cal/OSHA 2340.23) 	<ol style="list-style-type: none"> 1. Qualified Electrician

	2. Damage to equipment from improper testing	2. Ensure the equipment is properly rated for the test voltage being used 3. Utilize appropriate PPE, including insulated gloves and safety glasses. (OSHA 1926 Subpart E, Cal/OSHA 3380)	2. Safety Officer 3. Competent Person
6. Current Testing (Clamp Meter)	1. Electric shock from contact with energized conductors 2. Incorrect readings due to improper technique	1. Use a clamp meter to measure current on conductors safely without direct contact. (OSHA 1926.333(c), Cal/OSHA 2340.24) 2. Ensure the clamp meter is properly rated for the anticipated current 3. Wear proper PPE (insulated gloves) and follow manufacturer's instructions for the meter	1. Qualified Electrician 2. Safety Officer
7. Circuit Breaker Testing and Analysis	1. Electric shock; arc flash hazards 2. Faulty Circuit Breakers will not immediately interrupt the electrical circuit	1. Perform testing and analysis on circuit breakers to ensure they function correctly. (OSHA 1926.403(b)(2)(vi), Cal/OSHA 2340.24) 2. Utilize a circuit analyzer for proper testing 3. Implement necessary PPE when working with energized components	1. Qualified Electrician 2. Safety Officer 3. Competent Person
8. Tightening Connections	1. Electric shock from contact with energized parts or loose connections	1. Use insulated tools to tighten connections. (OSHA 1926.302(a), Cal/OSHA 2340.2)	1. Qualified Electrician

	<p>2. Arc flash hazards if connections are loose and arcing occurs</p>	<p>2. Ensure that the power is off (LOTO in place) when tightening connections. (OSHA 1926.403(b)(2), Cal/OSHA 2340.24)</p> <p>3. Wear appropriate PPE, including insulated gloves, and a face shield, if there is a risk of arc-flash. (OSHA 1926 Subpart E, Cal/OSHA 3380)</p>	<p>2. Safety Officer</p> <p>3. Competent Person</p>
9. Labeling and Documentation	<p>1. Confusion and errors due to incorrect labeling</p> <p>2. Inadequate record-keeping of maintenance activities</p>	<p>1. Properly label all circuits and components after maintenance is completed. (OSHA 1910.303(f), Cal/OSHA 2340.24)</p> <p>2. Maintain accurate records of all inspections, testing, and maintenance activities. (OSHA 1910.303, Cal/OSHA 2340.2)</p> <p>3. Ensure that all documentation is easily accessible and updated regularly</p>	<p>1. Qualified Electrician</p> <p>2. Safety Officer</p>
10. Restoration of Power and Final Inspection	<p>1. Incorrect restoration of power leading to electrical hazards</p> <p>2. Unforeseen energized components</p>	<p>1. Verify that all personnel are clear of the work area before restoring power. (OSHA 1910.333(b)(2)(vi)(A), Cal/OSHA 2946(b)(2))</p> <p>2. Conduct a final inspection to confirm that all work is complete and that the equipment is functioning properly. (OSHA 1910.333(b)(2)(vii), Cal/OSHA 2946)</p> <p>3. Remove all LOTO devices only after confirming the system is safe to energize</p>	<p>1. Qualified Electrician</p> <p>2. Safety Officer</p> <p>3. Competent Person</p>

SIGNATURES

Prepared by

Approved by

TOOLBOX MEETING

(This JSA has been discussed with the following crew)

NO.	NAME (PRINT)	DESIGNATION/ROLE	SIGNATURE	DATE
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