

CREW DETAILS

IN AN EMERGENCY CALL:

Crew Leader:	Project Phone Number:
Crew:	

PROJECT OVERVIEW

Purpose of Project:	Date of Project:
<p>Benefit of Project: Enhances energy efficiency and reduces utility costs. Ensures reliable and safe electrical systems operation. Facilitates compliance with electrical codes and standards. Improves the longevity and performance of electrical infrastructure. Reduces the risk of electrical hazards and fires. Supports the integration of advanced electrical technologies.</p>	

HAZARDS

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Accidental contact with energized components	Electric shock, burns, injuries	Enables ongoing operations while minimizing interruptions for de-energization.	Use barriers, covers, and warning signs to isolate energized components. Provide insulated tools and PPE. Conduct training on the risks of energized components and safe work practices. (ALL)	Workers	Before Measure: High After Measure: Low
Adverse weather	Electric shock, equipment damage, delays	Allows necessary outdoor work while managing delays and minimizing risks associated with unpredictable weather.	Monitor weather forecasts and halt work during extreme conditions such as storms, heavy rain, or lightning. Provide weather-resistant PPE and ensure outdoor equipment is properly shielded. Develop contingency plans for rescheduling tasks. (ALL)	Workers	Before Measure: High After Measure: Low

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Arc flash incidents	Severe burns, equipment damage, fatalities	Facilitates the maintenance of high-energy systems without total system shutdowns, preserving uptime.	Conduct arc flash risk assessments to determine potential hazards. Provide appropriate PPE, such as arc-rated clothing. Implement engineering controls like arc-resistant equipment. (ALL)	Workers	Before Measure: High After Measure: Low
Defective electrical equipment	Electric shock, burns, equipment damage	Enables temporary use of equipment while ensuring faults are identified and addressed promptly.	Implement a preventive maintenance schedule to regularly inspect and test equipment. Remove defective equipment from service immediately. Maintain records of equipment status. (ALL)	Workers, building occupants	Before Measure: High After Measure: Low
Electrical equipment overheating	Fire, equipment damage, system failure	Enables operation in demanding conditions while preventing unplanned system shutdowns.	Monitor equipment temperatures using sensors and alarms. Conduct regular maintenance and cleaning of cooling systems. Avoid overloading equipment and ensure adequate ventilation. (ALL)	Workers, building occupants	Before Measure: High After Measure: Low
Exposure to electrical noise (EMI/RFI)	Equipment interference, hearing damage, operational delays	Supports operations requiring high-frequency equipment without compromising safety.	Use shielding and grounding techniques to minimize interference. Provide PPE like ear protection in high-frequency areas. Conduct testing to identify and mitigate noise sources. (ALL)	Workers	Before Measure: Med After Measure: Low
Exposure to overhead power lines	Electrocution, fatal injuries, equipment damage	Enables work in proximity to overhead lines, such as on construction sites, while managing risks effectively.	Maintain safe working distances as specified by regulations. Use insulated tools and equipment. Provide training on recognizing and avoiding overhead hazards. (ALL)	Workers	Before Measure: High After Measure: Low
Failure to de-energize equipment during maintenance	Electric shock, arc flash, injuries	Maintains flexibility in addressing urgent maintenance tasks where de-energization is impractical.	Implement strict lockout/tagout procedures for all maintenance tasks. Provide insulated tools and arc-rated PPE. Regularly audit compliance with de-energization protocols. (ALL)	Workers	Before Measure: High After Measure: Low

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Faulty or damaged wiring	Fire, equipment failure, electric shock	Allows systems to remain operational while faults are identified and addressed, minimizing disruption.	Conduct routine inspections to identify wear, corrosion, or damage. Replace defective wiring immediately. Use wiring that meets industry standards and is appropriate for the specific environment. (ALL)	Workers, building occupants	Before Measure: High After Measure: Low
Improper disposal of electrical waste	Environmental damage, legal non-compliance, contamination	Ensures environmental safety while allowing for timely disposal of waste during operations.	Follow regulations for disposal of electrical waste, including batteries, wires, and old equipment. Provide designated bins and conduct training on waste disposal. Regularly audit compliance. (ALL)	Workers, environment	Before Measure: Med After Measure: Low
Improper insulation of cables	Electric shock, short circuits, fire	Supports the operation of systems requiring temporary or high-demand cable setups.	Use cables with appropriate insulation for the voltage and environmental conditions. Regularly inspect and replace worn or damaged insulation. Provide training on recognizing inadequate insulation. (ALL)	Workers, building occupants	Before Measure: High After Measure: Low
Improper lockout/tagout procedures	Electrocution, accidental equipment start-up, injuries	Allows maintenance tasks to be conducted safely without extensive downtime.	Establish and enforce strict lockout/tagout procedures for all maintenance activities. Provide necessary equipment and training. Regularly audit compliance and address any deviations promptly. (ALL)	Workers, contractors	Before Measure: High After Measure: Low
Improper storage of flammable materials near electrical sources	Fire, explosions, injuries	Allows for safe operations in spaces requiring both electrical systems and flammable materials.	Establish designated storage areas for flammable materials, away from electrical equipment. Implement strict housekeeping protocols. Conduct regular inspections to ensure compliance. (ALL)	Workers, site visitors	Before Measure: High After Measure: Low

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Improper storage of tools	Falling objects, injuries, equipment damage	Reduces the risk of injury or equipment damage, ensuring tools remain accessible and in good condition.	Set up designated storage areas with proper labeling and organization. Enforce tool-check-in and check-out procedures. Conduct regular inspections of storage spaces to ensure tools are stored safely and securely. (ALL)	Workers	Before Measure: Med After Measure: Low
Improper use of extension cords	Overheating, fire, electric shock	Provides flexibility in accessing power in temporary or remote locations without permanent infrastructure.	Limit the use of extension cords; when necessary, use only heavy-duty, grounded cords rated for the specific load. Regularly inspect cords for damage. Train employees on proper usage. (ALL)	Workers	Before Measure: Med After Measure: Low
Improper use of power tools	Electric shock, mechanical injuries, equipment damage	Allows tasks requiring specialized tools to be completed efficiently while managing potential risks.	Provide training on the safe operation of power tools, emphasizing correct techniques and limitations. Conduct regular inspections and maintenance to ensure tools are in good working condition. Enforce the use of appropriate PPE such as goggles and gloves. (ALL)	Workers	Before Measure: High After Measure: Low
Improperly rated equipment for hazardous areas	Explosions, equipment damage, injuries	Enables necessary operations in hazardous environments while mitigating risks.	Identify hazardous areas and ensure all equipment used is rated appropriately (e.g., explosion-proof). Regularly inspect equipment for compliance. Provide specialized training for working in hazardous zones. (ALL)	Workers, site visitors	Before Measure: High After Measure: Low
Inadequate emergency procedures	Delays in response to electrical incidents, injuries, fatalities	Maintains operational safety while allowing quick and efficient responses to incidents.	Develop and regularly review emergency response plans specific to electrical incidents. Conduct drills and ensure availability of fire extinguishers and first-aid kits. Train employees on emergency protocols. (ALL)	Workers, site visitors	Before Measure: High After Measure: Low

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Inadequate first aid	Delayed treatment, worsening injuries, fatalities	Enables immediate response to injuries, minimizing downtime and promoting a safer working environment.	Ensure that a sufficient number of trained first-aiders are available on-site. Provide fully stocked first-aid kits at accessible locations. Conduct regular training and refresher courses. Post emergency contact numbers prominently in all work areas. (ALL)	Workers, site visitors	Before Measure: Med After Measure: Low
Inadequate grounding	Electrocution, equipment damage, fire	Facilitates the safe operation of electrical equipment in critical environments requiring continuous power.	Ensure all electrical systems are properly grounded according to regulatory standards. Regularly test grounding systems for integrity and effectiveness. Provide training on the importance of grounding. (ALL)	Workers, building occupants	Before Measure: High After Measure: Low
Inadequate labeling of electrical panels	Electric shock, delays in emergency response, system damage	Allows for continued operations while labeling updates are implemented, reducing system interruptions.	Clearly label all electrical panels and circuits with up-to-date information. Ensure labels are durable and legible. Conduct periodic audits to verify accuracy. (ALL)	Workers, emergency responders	Before Measure: Med After Measure: Low
Inadequate personal protective equipment (PPE)	Electric shock, burns, injuries	Allows work to proceed in hazardous environments by mitigating risks through adequate protection.	Conduct hazard assessments to determine necessary PPE. Provide appropriate PPE such as gloves, helmets, goggles, and arc-rated clothing. Regularly inspect PPE for wear and tear and replace it as needed. Ensure proper training on the use and maintenance of PPE. (ALL)	Workers	Before Measure: High After Measure: Low
Inadequate qualifications/experience	Improper handling of equipment, increased risk of incidents, reduced work quality	Enables the development of less experienced workers while maintaining safety and compliance.	Verify workers' qualifications before assigning tasks. Provide specialized training for high-risk or complex activities. Pair inexperienced workers with qualified supervisors. Maintain up-to-date training records. (ALL)	Workers	Before Measure: High After Measure: Low

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Inadequate training on electrical safety	Electric shock, burns, improper handling of equipment	Improves workforce capability to handle electrical risks effectively while ensuring compliance.	Develop and implement comprehensive electrical safety training programs. Conduct regular refresher courses and assessments. Keep training materials updated with the latest standards and best practices. (ALL)	Workers	Before Measure: High After Measure: Low
Incorrect tool selection	Injury, reduced efficiency, material damage	Enables efficient and precise task completion by ensuring the right tools are used for each job.	Train workers to select the correct tool for the job based on the task and material. Provide detailed instructions and visual guides on proper tool use. Maintain an inventory of tools with clear labeling and usage guidelines. (ALL)	Workers	Before Measure: Med After Measure: Low
Insufficient lighting in work areas	Reduced visibility, accidents, errors	Enables precise and efficient electrical work in low-light conditions, ensuring project continuity.	Install sufficient task lighting in electrical work areas. Use portable, explosion-proof lights in hazardous zones. Conduct regular inspections to ensure lighting is functional. (ALL)	Workers	Before Measure: Med After Measure: Low
Lack of testing and verification before re-energizing	Electric shock, equipment failure, system damage	Reduces the risk of downtime due to repeated testing or errors, allowing quicker restoration of power.	Implement mandatory testing protocols to ensure systems are safe before re-energizing. Use testing equipment like multimeters and insulation testers. Train employees to follow strict verification processes. (ALL)	Workers	Before Measure: High After Measure: Low
Lack of training on new equipment	Improper use, injuries, equipment damage	Enables the integration of new technology into operations while ensuring workers can use it safely and effectively.	Require employees to undergo formal training before using unfamiliar or newly acquired equipment. Provide manuals, safety guidelines, and hands-on demonstrations. Implement a buddy system for initial use under supervision. (ALL)	Workers	Before Measure: High After Measure: Low

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Live working hazards.	Electric shock, burns, fatal injuries	Enables efficient repair and maintenance on live systems when de-energizing is not feasible, ensuring minimal operational downtime.	Live working is only permitted when no other option is available. Implement strict lockout/tagout procedures to ensure all electrical sources are de-energized before maintenance. Provide insulated tools and PPE such as rubber gloves and mats. Conduct regular training on electrical safety protocols. (ALL)	Workers, site visitors	Before Measure: High After Measure: Low
Loose or unsecured tools during elevated work	Falling tools, injuries, damage to property	Allows critical elevated tasks to proceed while minimizing risks of dropped tools causing injury or damage.	Use tool lanyards or holsters to secure tools when working at height. Prohibit loose tools in pockets or on unsteady surfaces. Conduct pre-task inspections to ensure all tools are properly secured. (ALL)	Workers, site visitors	Before Measure: High After Measure: Low
Overloaded circuits	Fire, equipment damage, system failure	Enables handling of fluctuating power demands in dynamic environments while addressing overload risks.	Design electrical systems with appropriate load capacities. Install circuit breakers and fuses to prevent overloads. Educate staff on the dangers of overloading circuits. (ALL)	Workers, building occupants	Before Measure: High After Measure: Low
Proximity to combustible materials	Fire, explosions, property damage	Allows operations in environments where electrical systems and combustible materials coexist.	Maintain a minimum clearance between electrical systems and combustible materials. Use fire-resistant barriers and conduct regular inspections. Train employees on fire prevention practices. (ALL)	Workers, building occupants	Before Measure: High After Measure: Low
Tripping over cables	Slips, trips, falls, minor injuries	Allows for temporary setups in workspaces without the need for permanent installations.	Route cables through designated paths or secure them with cable covers. Use warning signs in high-traffic areas. Conduct regular inspections to ensure cables are not causing obstructions. (ALL)	Workers, site visitors	Before Measure: Med After Measure: Low

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Unauthorized access to electrical systems	Electric shock, equipment damage, sabotage	Supports operational security while allowing flexibility in access for authorized personnel.	Restrict access to electrical systems through locked panels and access control systems. Clearly label restricted areas and provide training on who is authorized to enter. (ALL)	Workers, site visitors	Before Measure: Med After Measure: Low
Unclear signage for high-voltage areas	Electric shock, injuries, fatalities	Facilitates safe navigation and maintenance activities in high-voltage areas.	Place clear, durable, and universally understood signage around high-voltage areas. Conduct periodic audits to ensure all signs are present and legible. (ALL)	Workers, site visitors	Before Measure: Med After Measure: Low
Unsafe structures	Collapses, falling debris, injuries	Allows work in environments with compromised structures while minimizing risks through proactive measures.	Conduct structural assessments before starting electrical work in or near the structure. Use temporary supports or scaffolding when needed. Restrict access to areas deemed structurally unsound. Train workers to identify signs of instability. (ALL)	Workers, site visitors	Before Measure: High After Measure: Low
Use of defective tools	Mechanical failures, injuries, equipment damage	Ensures work can proceed without significant downtime caused by unexpected tool failures.	Establish a system for regularly inspecting and maintaining tools. Remove defective tools from service immediately. Provide a reporting process for employees to highlight tool-related issues. (ALL)	Workers	Before Measure: High After Measure: Low
Use of non-insulated tools	Electric shock, burns, injuries	Supports precise and efficient electrical work in environments where insulated tools are required.	Ensure all tools used for electrical work are properly insulated and rated for the voltage involved. Conduct regular inspections and replace damaged tools immediately. Provide training on the importance of using insulated tools. (ALL)	Workers	Before Measure: Med After Measure: Low

HAZARD	RISK	RISK BENEFIT	MEASURE	RISK TO	RISK LEVEL
Vibration damage to equipment	Equipment failure, electrical faults, injuries	Allows electrical systems to operate in environments with mechanical vibrations without compromising safety.	Use anti-vibration mounts and brackets for equipment in high-vibration areas. Conduct regular inspections for loosened connections or signs of wear. Train employees to identify vibration-related damage. (ALL)	Workers	Before Measure: Med After Measure: Low
Wet conditions	Electric shock, equipment damage, fire	Permits work in challenging environments like construction sites and industrial areas, enhancing project continuity.	Use weatherproof and watertight enclosures for electrical equipment in wet areas. Implement strict protocols to avoid working with electrical systems in wet conditions. Provide PPE such as insulated boots. (ALL)	Workers	Before Measure: High After Measure: Low
Unpredicted risks	Illness, injury, death		Continuous risk monitoring conducted by all staff. Any unforeseen hazards must be reported promptly to supervisors or management, with immediate corrective action taken as necessary. (ALL)	All	N/A

NOTES

Extra notes & activity evaluation:

Completed by

Reviewed/Approved by

Risk Assessment Date

Review Required Date