GRAVITY

ELEVATING SOLUTIONS

CONTROLLING ELECTRICAL HAZARD WHILE WORKING AT HEIGHT

Due to the good responses and requests for additional information, we have developed a follow-up to the safety bulletin of "March 2022 - Controlling Electrical Hazard while working at height "

PART 2

PART 2 of the safety bulletin is intended to give general practical steps to identify, minimize, and control the electrocution risk by following the steps below when planning to perform work at height. The focus is on the hazard identification, risk evaluation and then how to implement specific controls.

Reminder: the consequences of inadvertently touching or working too close to overhead power lines are severe and will result in serious injury, death or damage to property and the power grid.

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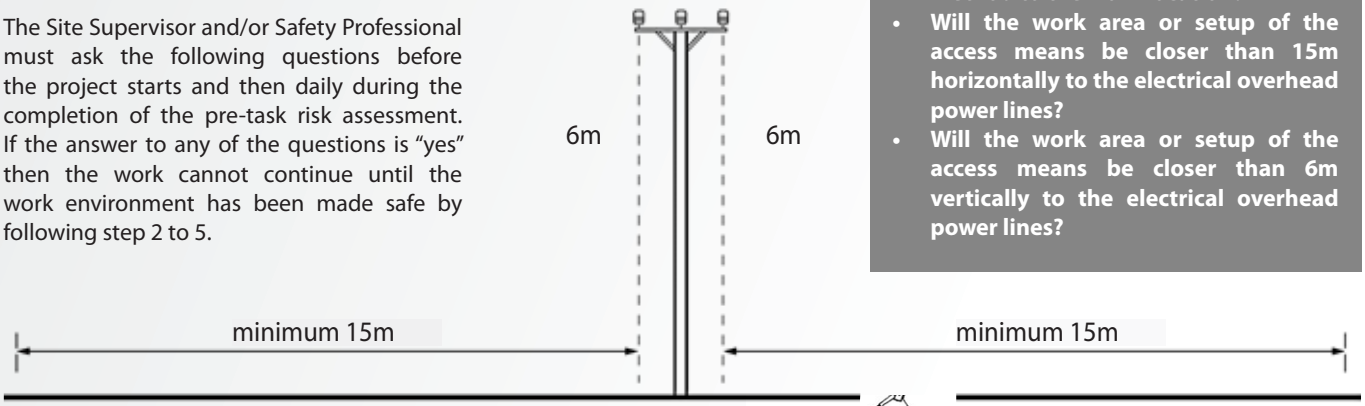
STEP 1:

IDENTIFY THE HAZARD AS PER AREA AND TASK

The Site Supervisor and/or Safety Professional must ask the following questions before the project starts and then daily during the completion of the pre-task risk assessment. If the answer to any of the questions is "yes" then the work cannot continue until the work environment has been made safe by following step 2 to 5.

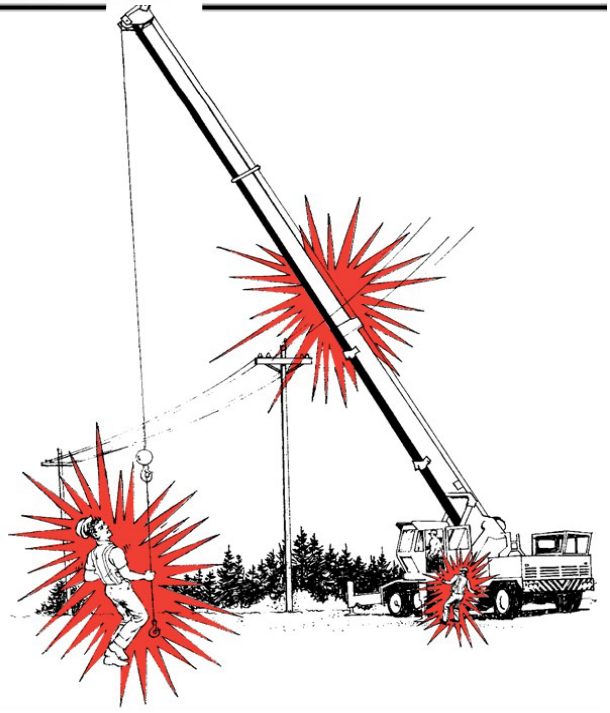
- **Is there any uncertainty about or unfamiliarity with the chosen access method to the work location?**
- **Will the work area or setup of the access means be closer than 15m horizontally to the electrical overhead power lines?**
- **Will the work area or setup of the access means be closer than 6m vertically to the electrical overhead power lines?**



STEP 2:

ANALYSIS AND EVALUATION OF THE HAZARD BY A COMPETENT PERSON

- **Hazard Focus point: Electrical Hazards that may affect the safety of a person using the chosen type of access method and/or mobile plant in a specific area during a specific task.**
- **What is the voltage of the overhead power line? WARNING: If line voltage is unknown, stop work until the voltage has been confirmed by a competent person.**
- **What will the consequences be if a person or plant enters this safety clearance zone i.e. what injuries or damage to equipment could occur and how severe will they be?**



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STEP 3:

DEVELOP AND IMPLEMENT ADMINISTRATIVE CONTROLS BEFORE THE PROJECT STARTS

Use the hazard analysis and consequences determined in Step 2 and identify appropriate controls for each access method, mobile plant and/or work area. These may include but are not limited to:

- Medical evaluation procedure for workers working near electricity
- Training program for working in proximity of overhead power lines
- Equipment management and use near overhead power lines
- Rescue and emergency procedures if an electrical incident occurs.

- Use the Voltage identified in Step 2 and then determine the shortest distances in the air between a live or charged conductor and the feet of someone working in the enclosure. This distance shall not be less than:

RATED VOLTAGE	MINIMUM CLEARANCE
1kV to 50kV peak	3m or 10ft
50kV to 150kV peak	4m or 13ft
150kV to 300kV peak	5m or 16ft
300kV to 600kV peak	7m or 23ft
600kV to 900kV peak	11m or 36ft

WARNING:
The above clearance distances serve only as a guideline (from *The Science and Technology Facilities Council – Electrical Safety Code of August 2020*) and may vary from the guidelines that are provided by different countries, the design and construction of the overhead lines, and according to the client's specifications, due to additional hazards identified in the client's Baseline Hazard Identification and Risk Assessment. E.g. *Clearances are likely to vary due to the flexibility of connections or the remoteness of fixed supports. In such circumstances, the above-mentioned clearances shall be increased by a competent person to suit the conditions at hand.*

STEP 4:

SEEK EXPERT ADVICE FOR SPECIFIC ACCESS METHODS

- **Hazard Focus point: Electrical Hazards that may affect the safety of a person using the chosen type of access method and/or mobile plant in a specific area during a specific task.**
- **What is the voltage of the overhead power line? WARNING If line voltage is unknown, stop work until the voltage has been confirmed by a competent person.**
- **What will the consequences be if a person or plant enters this safety clearance zone i.e. what injuries or damage to equipment could occur and how severe will they be?**

CONTACT
Gravity for more information on the safe use of ladders, specialist equipment and operating in a rope access work environment:

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STEP 5:

IMPLEMENT AND MONTOR CONTROLS

- The area within which the work is to be done must be clearly defined and demarcated with ropes, barriers, and/or notices. These must be arranged to maintain the specified minimum clearances.
- All workers must wear the correct PPE, monitoring and/or warning devices, as identified and defined during Step 4.
- Stop work procedures must be developed and encouraged if the task or hazard changes and the process must then be restarted at Step 1.

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