



Minimum Approach Distance (MAD) Poster Refresh

Background:

During a recent Safety Observation recorded in Safety Culture, an opportunity was identified to strengthen awareness among our staff, service providers and contractors about the MAD requirements for non-competent persons. The existing MAD poster only outlines safe distances for competent persons, which led to a review of the poster to ensure alignment with the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).

What is changing?

We have refreshed the MAD poster to ensure awareness and continued compliance with NZECP 34:2001 and more importantly ensure the safety of our people and others when approaching or working close to live electrical equipment. Attached is the new MAD poster (Issue 2, October 2025). It is recommended to be aware of and familiar with this new MAD poster, including the safe distances for the different voltages of electrical equipment and persons who may be at a site.

In this refreshed MAD poster, we have considered capturing reasonable and practicable additional layers of controls with different levels of competencies considering our visitors, non-competent and competent persons working on both substations and lines so that they can approach or work while maintaining a suitable MAD to live electrical equipment. Please refer to the minimum Transpower requirements outlined on the table.

We have also added the minimum Transpower requirements for mobile plants and drones when approaching or working 4m from the live equipment.

Illustrations have been added to the poster to visually aid our visitors and our people in interpreting the requirements. The changes in the new MAD poster will be captured in the Site-Specific Induction (SSI) – Part A & B by Grid Skills for this to be embedded in our learning courses (e.g. Substation Entry 1, etc.).

Providing assurance and a clear demonstration of correctly understanding MAD

One of the minimum Transpower requirements for non-competent persons before approaching or working outside the MAD is their unambiguous demonstration and understanding of the live points of the electrical equipment and safe distances. Grid Skills will be adding an assurance check in the SSI – Part B so the inductor can verify the inductees' understanding of this requirement (please see picture below). The revision of the SSI – Part B is in-progress.

<p>Minimum Approach Distances (MADs)</p> <p>MADs create a safety zone between people and live conductors or uninsulated equipment. MAD must always apply.</p> <ul style="list-style-type: none"> • Explain the MADs that apply to the work the inductee will be doing. <p>Ask</p> <p>For your work area can you:</p> <ul style="list-style-type: none"> <input type="checkbox"/> identify the voltage levels of the equipment you'll be working near? <input type="checkbox"/> point out the live point? <input type="checkbox"/> explain the Minimum Approach Distance (MAD) you need to maintain around the equipment for that voltage? 	<p>Identify the live points</p> <p>Identify the live points on the diagram below.</p>
---	--



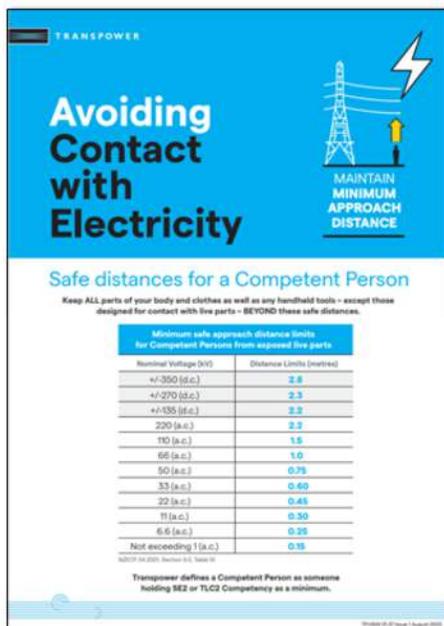
Next steps and instructions to our Service Providers

The printing of the posters is now being arranged and will be distributed to Transpower offices for posting in our substations.

For our Regional Service Contract (RSC) Service Providers, once the newly printed MAD poster (Issue 2, October 2025) is received, please remove the existing posters/signs and post the new version on the substation notice board. This will replace the current Issue 1 MAD poster as well as the Don't be Caught – Mobile Plant Safe Distances posters (pictures below).

Service Providers are also requested to replace existing and post the new posters in their offices or their depots.

It is required that all existing signage and posters are replaced with the new version by March 2026.



Note: Above are the old posters to be removed.

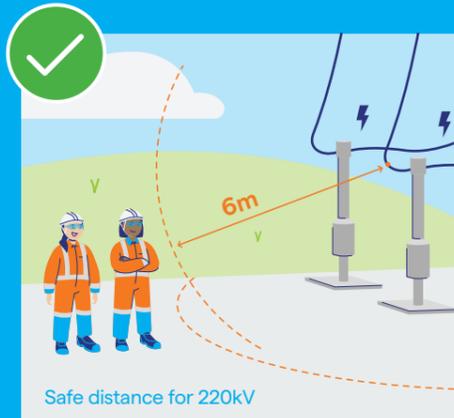
The new MAD poster to be used is in the last page of this Safety Start.

Name	Toniette Salt Andrew Renton
Position	Head of H&S Senior Principal Engineer
Mobile	027 346 0922 021 383 041
Email	Toniette.Salt@transpower.co.nz Andrew.Renton@transpower.co.nz

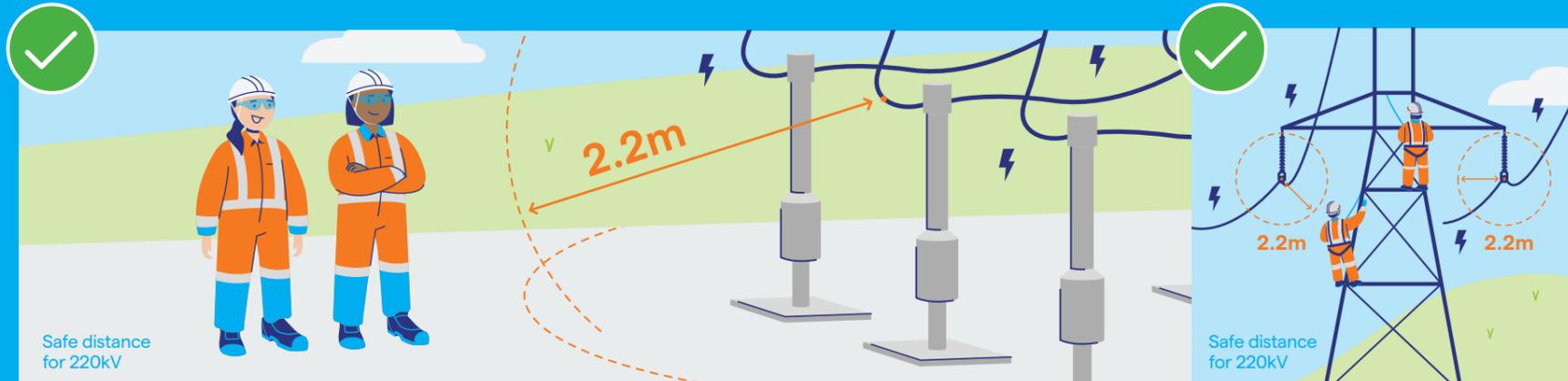
Minimum Approach Distance (MAD) to avoid contact with electricity

Keep your body, clothing, tools, and machinery outside these distances – unless designed for live contact (e.g. voltage detection devices).

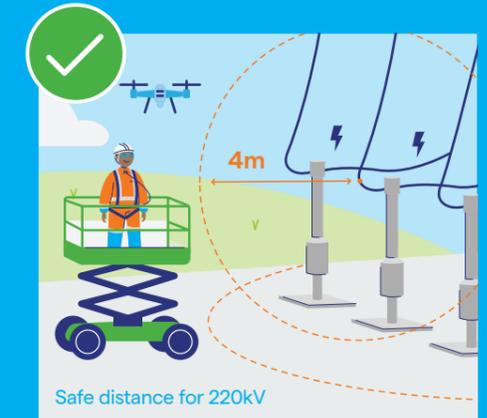
Visitors



Staff and Service Providers



Mobile plant and drone in substation



Visitors (Non-competent)
(i.e. photographers, staff induction)

Minimum Transpower Requirements:

- Worksite Safety Plan or equivalent
- Staff induction and media prescribed route at selected TP sites (OTA, DRY, BPE, HAY, WIL, ISL, BEN, HWB).
- **Direct Supervision**
Ratio 1 (SE2): 5 persons plus 1 extra (SE2) for groups larger than 5

Distance Limits:

- Above 110kV: 6m
- 110kV and below: 4m

Circuit Voltage (kV)	Distance Limits (m)
+/-350 (d.c.)	2.8
+/-270 (d.c.)	2.3
+/-135 (d.c.)	2.2
220 (a.c. or d.c.)	2.2
110 (a.c. or d.c.)	1.5
66 (a.c. or d.c.)	1.0
50 (a.c. or d.c.)	0.75
33 (a.c. or d.c.)	0.60
22 (a.c. or d.c.)	0.45
11 (a.c. or d.c.)	0.30
6.6 (a.c. or d.c.)	0.25
Not exceeding 1 (a.c. or d.c.)	0.15

Non-competent Persons without Substation Entry 1 (SE1)

Person need to come closer for one off task (i.e. concrete pump operator, surveyor, drone operator, etc).

Minimum Transpower Requirements:

- Site Specific Induction (SSI) Part A & B
- Demonstration of understanding of MAD
- Worksite Safety Plan or equivalent
- **Work Methodology**
- **Direct Supervision** – Ratio 1 (SE2): 6 persons

Non-competent Persons with Substation Entry 1 (SE1) and/or Transmission Lines Core (TLC)

If need to come closer on a more regular basis (i.e. 3 or more times per year staff under training, steel placer, concrete placer, surveyor, other trades).

Minimum Transpower Requirements:

- SSI Part A & B (N/A for lines)
- Demonstration of understanding of MAD
- Worksite Safety Plan or equivalent
- **Close Supervision**

Competent Persons

Someone holding:

- Substation Entry 2 (SE2)
- Transmission Line Mechanic (TLM)
- Transmission Structure Maintainer (TSM)

Minimum Transpower Requirements:

- Worksite Safety Plan or equivalent
- **Self Supervision**

Mobile plant and/or equipment

Minimum Transpower Requirements and Distance Limits:

Mobile Plant: 4m
No plant within 4m of live equipment unless there is an approved Minimum Approach Request (MAR) in place as per TP.SS 07.20.

Drone: 4m
No drone within 4m of live equipment in a substation unless approved by TP as per TP.SS 02.99.