

Close Approach Permit Guideline

Operations | System Control

Security Class: Public – Social Media

Change Table

Version	Change/Details
V2.0	Section 9.3 and Table 10 added from New Zealand Electrical Code of Practice (NZECP 34:2001)

1. PERMIT CONDITIONS

The following conditions shall apply and shall be implemented by the Applicant to allow the planned and approved work to proceed.

Types of approach:

- Application for approval to excavate/penetrate near underground cables or electrical line supports
- Application for approval to operate machinery closer than 4m to electric power lines
- Application for working near conductors of overhead electric lines including the erection of scaffolding

Mobile Plant Consent:

Prior written consent shall be obtained from PowerNet prior to operating any type of mobile plant in proximity to the PowerNet HV and / or LV energised networks where the minimum approach distance of 4m may be breached. This section SHALL include mobile plant such as tip trucks, cranes, forklifts, JLG's, VLC's elevating platforms, scissor lifts, irrigation booms, excavators, boring machines etc.

Mobile plant in transit on a road near electrical lines do not require approval while the relevant sections of the Traffic Regulations 1976 are observed.

Mobile plant or any load carried shall not operate above the conductors of any overhead electrical line unless the operator has received PowerNet written approval to work above the electric line.

The minimum distance between any live overhead line and any part of any mobile plant or load shall be **"AT LEAST 4.0 METRES"**, unless the operator has received written approval documenting a reduced clearance from PowerNet.

Reference: *Section 5, Table 6 and figure 5 of the New Zealand Electrical Code of Practice for Electrical Safe Distances, NZECP 34:2001 (COP).*

Employee Consent:

Prior written consent shall be obtained from PowerNet prior to non-competent employees coming within the minimum distances outlined in the COP and reproduced below.

Reference: *Section 9, figures, 2 and 6 and Tables 9 and 10 of the New Zealand Electrical Code of Practice for Electrical Safe Distances, NZECP 34:2001*

Prior written consent shall be obtained from PowerNet prior to:

- Excavations or other interference with the land near any:
- Poles or stay wires of an overhead electrical line where the work:
 - Is at a greater depth than 300mm within 2.2m of the pole or stay wire of the line or
 - Is at a greater depth than 750mm between 2.2 and 5m of the pole or stay wire or
 - Creates an unstable batter
- Electric towers where the work:
 - is at a depth greater than 300mm within 6m of the outer edge of the visible foundation of the tower or
 - Is at a greater depth than 3m between 6m and 12m of the outer edge of the visible foundation of the tower or

<ul style="list-style-type: none"> • Creates an unstable batter <p>D. Is in the proximity of buried PowerNet electrical cables or conduits E. Inside a PowerNet substation fence / enclosure.</p> <p>Reference: Section 2, figures 1 and 2 of the New Zealand Electrical Code of Practice for Electrical Safe Distances, NZECP 34:2001</p>	
Applicant controls to be implemented:	1. Authorised Safety Observer <i>(mandatory when MAD distances may be approached)</i>
PowerNet controls to be implemented:	<ul style="list-style-type: none"> • Contact System Control on 0800 808 587 to obtain permission to commence work on the day. <i>(Mandatory control for all applications)</i> • On completion of work or access for the day, contact System Control on 0800 808 587 to confirm clear of lines. <i>(Mandatory control for all applications)</i> • That any breach of the minimum approach distances or conditions of this permit shall create an incident that shall be reported immediately to PowerNet System Control on 0800 808 587.
<p>PowerNet approval:</p> <p>With all controls in place and maintained, PowerNet gives approval to the company's Permit Holder and employees to work to the following minimum distances of energised PowerNet equipment at the approved times and dates to do the work described in the application.</p>	
<p>This Permit does not authorise any work above energised electrical assets at any time.</p>	
Job Site acceptance by the Site Supervisor	On approval by PowerNet of OP-FRM-0025-Close Approach Permit Form, the job site Permit Holder agrees that they understand the conditions and how to implement them and agree that these conditions shall be applied at all times while access is required. All workers on site shall be briefed on these conditions prior to starting work.

Extracts from the New Zealand Electrical Code of Practice for Electrical Safe Distances, NZECP 34:2001

Figure 1 Minimum Safe Distances for Excavation and Construction near Poles or Stay Wires

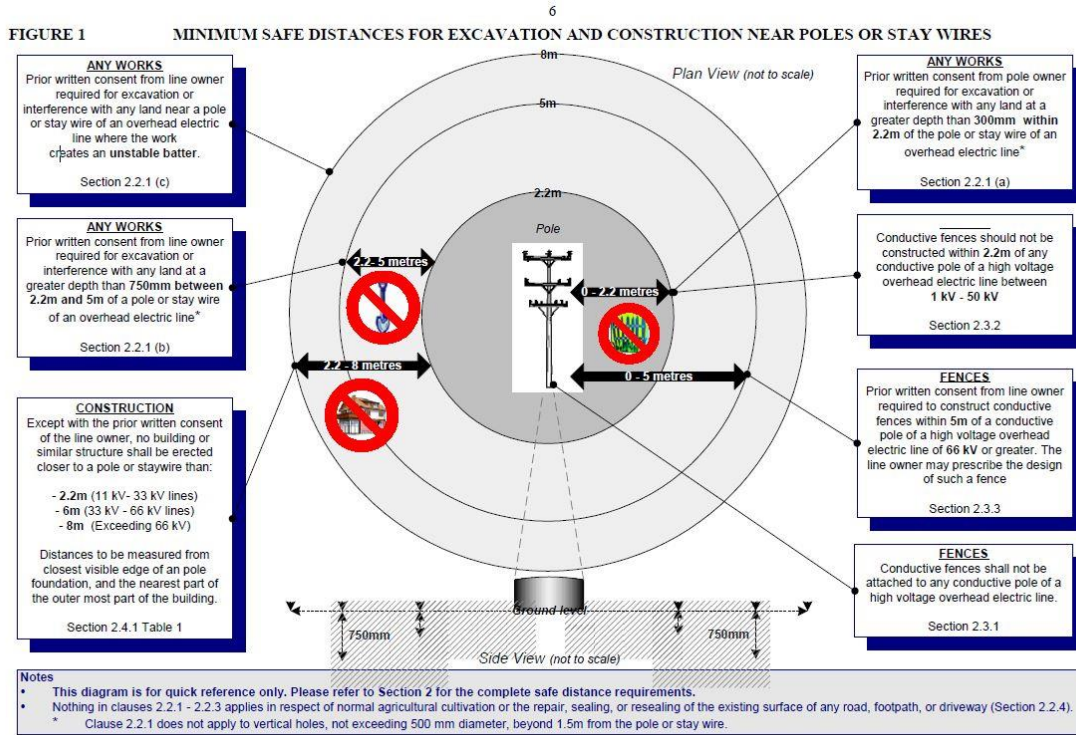


Figure 3 Minimum Safe Distances for Excavation and Construction near Towers

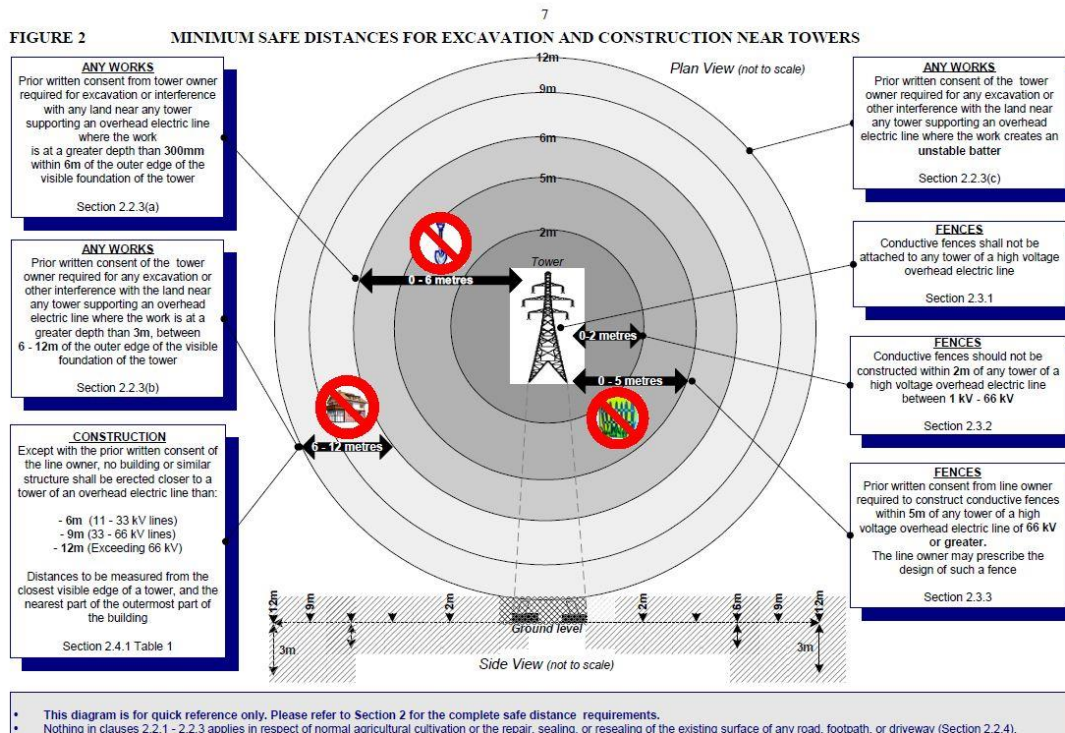


Figure 5 Minimum Safe Distances for the operation of Mobile Plant near Conductors

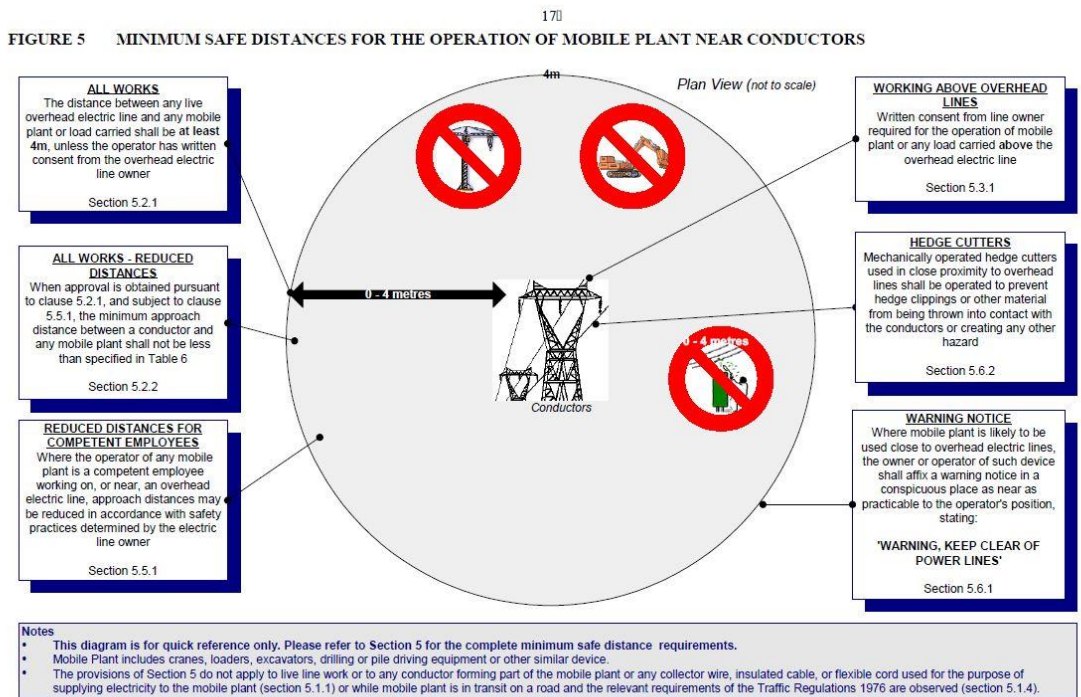
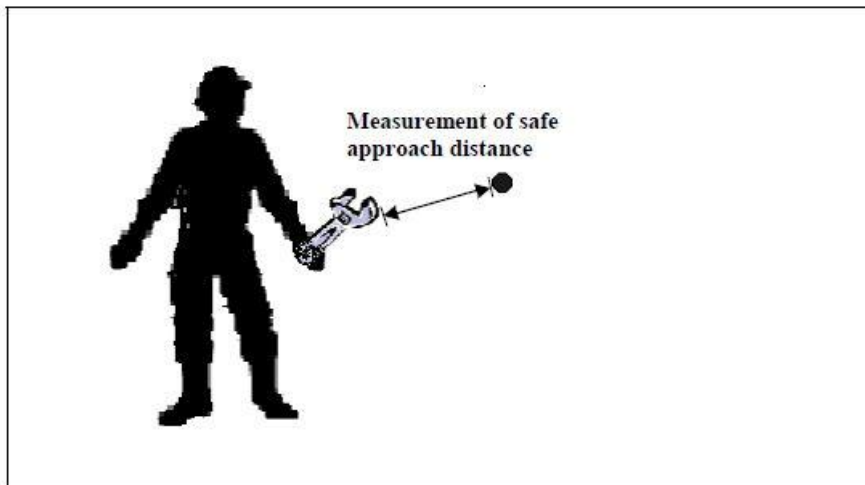


Figure 6 Measurement of Minimum Safe Approach Distances

FIGURE 6 MEASUREMENT OF MINIMUM SAFE APPROACH DISTANCES



Minimum safe approach distances for persons shall be taken from the closest point of possible approach to the energised line. This closest point shall also include any things like tools or equipment, carried loads etc. that is foreseeable that the person could be in contact with. This may include things like ladders, pipes, conduits, tree branches, farm equipment etc.

New Zealand Electrical Code of Practice for Electrical Safe Distances- Section 9- Minimum Safe Approach Distance Limits for persons working near exposed live parts.

9.1.1 This section sets out minimum safe approach distances limits for persons working

near exposed live parts.

- 9.1.2 Minimum safe distances limits are provided for non-competent persons. Reduced safe distances are provided for where the owner of the live parts gives written permission.
- 9.1.3 Minimum safe distances from exposed live parts shall be maintained at all times. Where necessary, insulating barriers shall be used to maintain minimum safe approach distances.
- 9.1.4 This section does not apply to work near conductors of extra-low voltage, or live line or live substation work.
- 9.1.5 Figure 6 illustrates the measurement of minimum safe approach distances from exposed live parts.

MINIMUM APPROACH DISTANCE LIMITS FOR NON-COMPETENT PERSONS WORKING NEAR EXPOSED LIVE PARTS.

- 9.1.6 For non-competent persons working near exposed live parts, where written consent from the owner of the live parts has not been obtained, the minimum safe approach distances limits are:
 - (a) For circuit voltages 110 kV and below - 4 m.
 - (b) For circuit voltages above 110 kV - 6 m.
- 9.1.7 Where written consent from the owner of the live parts has been obtained, the minimum safe approach distance limits for non-competent persons working near exposed live parts shall not be less than those specified in Table 9.

**TABLE 9 MINIMUM SAFE APPROACH DISTANCE LIMITS FOR PERSONS FROM
EXPOSED LIVE PARTS (Where consent from the owner of the live parts has been obtained)**

CIRCUIT VOLTAGE	DISTANCE LIMITS (M)
Below 1 kV	0.5
11 kV	1.5
22 kV	2.0
33 kV	2.5
66 kV	3.0
110 kV	4.0
220 kV and above	6.0

9.3 MINIMUM SAFE APPROACH DISTANCE LIMITS FOR COMPETENT EMPLOYEES FROM EXPOSED LIVE PARTS

- 9.1.8 9.3.1 The minimum safe approach distance limits for competent employees carrying out electrical or telecommunications work near exposed live parts shall not be less than those set out in Table 10.
- 9.1.9 9.3.2 The minimum safe approach distance for competent employees shall be maintained by keeping all parts of the body, clothing and any hand-held tools (except those tools designed for contact with live parts) beyond the safe distances set out in Table 10.

TABLE 10 MINIMUM SAFE APPROACH DISTANCE LIMITS FOR COMPETENT EMPLOYEES FROM EXPOSED LIVE PARTS

Nominal Voltage	Distance Limits (m)
Not exceeding 1 kV a.c. or d.c.	0.15
Exceeding 1 kV but not exceeding 6.6 kV a.c. or d.c.	0.25
Exceeding 6.6 kV but not exceeding 11 kV a.c. or d.c.	0.3
Exceeding 11 kV but not exceeding 22 kV a.c. or d.c.	0.45
Exceeding 22 kV but not exceeding 33 kV a.c. or d.c.	0.6
Exceeding 33 kV but not exceeding 50 kV a.c. or d.c.	0.75
Exceeding 50 kV but not exceeding 66 kV a.c. or d.c.	1
Exceeding 66 kV but not exceeding 110 kV a.c. or d.c.	1.5
Exceeding 110 kV but not exceeding 220 kV a.c. or d.c.	2.2
Exceeding 220 kV d.c. but not exceeding 270 kV d.c.	2.3
Exceeding 270 kV d.c. but not exceeding 350 kV d.c.	2.8
Exceeding 220 kV a.c or 350 kV d.c.	4