

**STANDARD CONDITIONS FOR
ELECTRIC POWER OVERHEAD LINES ON OR OVER LAND
VESTED IN VICTORIAN RAIL TRACK (VRT)**

1. DEFINITIONS

In these conditions:-

- a. “**crossing span**” shall mean that portion of conductors between supports, which cross over the railway line, and/or the Corporation’s aerial lines.
- b. “**electrified railway**” shall mean any line of electric traction or any line on which electric traction is proposed at a future date and which the Corporation may direct to be regarded as being an electrified railway.
- c. “**high voltage**” shall mean a voltage of an aerial line carrying alternating current,exceeding low voltage.
- d. “**low voltage**” shall mean a voltage of an aerial line carrying alternating current, not exceeding 1000 volts.
- e. “**other cable system**” shall mean: -
 - telecommunication and control cables
 - electrolysis cables
 - aerial earthed cables
- f. “**overhead line**” shall mean a high and/or low voltage aerial line carrying alternating current, erected on or over the property of the Corporation and shall be deemed to include conductors supports and all appurtenances necessary for or incidental to the functioning of the overhead line
- g. “**the Corporation**” shall mean Victorian Rail Track.
- h. “**the Engineer**” shall mean the person nominated by the Corporation
- i. “**the Owner**” shall mean the owner of the overhead line.

and, unless the context otherwise requires, words importing the singular number shall mean and include the plural number and words importing the masculine gender shall mean and include the feminine gender and the neuter gender.

2. LICENCE

The Owner of an overhead line may be required to enter into an Agreement or to execute a Licence, and pay to the Corporation such fees as shall be fixed by the said Corporation from time to time.

3. INSTALLATION, MAINTENANCE AND REMOVAL OF OVERHEAD LINE

The Owner shall be responsible for the work of installation, maintenance and/or removal of the overhead line in accordance with these conditions. The Engineer will inspect crossings following completion of works and at other times if considered necessary, to confirm compliance with these conditions. Any remedial action by the Owner, to be carried out as directed by the Engineer.

4. COSTS

The Owner shall bear the total cost of installation, maintenance, and removal of any overhead line, including all costs which may be incurred by the Corporation in connection therewith. The Owner shall also bear the cost of any alterations to the installation which may be required by the Corporation and any subsequent expenditure to which the Corporation may be put resulting from the presence of the overhead line on or over the property of the Corporation.

5. TERMINATION OF AGREEMENT OR LICENCE

The Agreement or Licence may be terminated at any time by the Corporation giving notice in accordance with the terms thereof, and where notice is given because land is required for railway purposes such notice will be given as early as practicable.

6. INDEMNITY

The Owner of any overhead line shall compensate the Corporation its servants and agents for and release them from and indemnify them against any or any liability for loss damage expense or injury sustained incurred or suffered by the Corporation or the Owner or any person whomsoever or body whatsoever and which is caused or brought about by, or which arises out of or is in any way connected with the installation of the overhead line or its subsequent existence maintenance repair control or user.

7. SUBMISSION OF PLANS

Ten copies of a scale plan of the work to be executed, showing all relevant clearances, other features, the exact location of the crossing span with direction, distance to nearest railway kilometre post, main road and parish, shall be supplied by the Owner for approval by the Engineer.

8. APPLICATION FOR WORKS ON OVERHEAD LINES

Any renewal, replacement, alteration or removal of an overhead line, will require an application from the Owner and be subject to the requirements of these conditions.

9. LOCATION OF OVERHEAD LINES

- a. Overhead lines shall be located to cross tracks at 90 degrees, however, if not practicable, approval may be given to cross tracks at angles between 45 and 90 degrees.
- b. Overhead lines and supporting structures shall be erected clear of all railway structures, drains, access roads, signalling/communications equipment, overhead masts and buildings.
- c. Overhead lines erected longitudinally in the property of the Corporation shall be located as far as practicable from the track or structures. They shall not be located within 15000mm of the centre line of the nearest track, unless with the approval of the Engineer.
- d. The supporting structures at a level crossings shall be positioned so as not to be an obstruction to road users' view of approaching trains and/or level crossing protection, including signage and any flashing light signals.
- e. Low voltage aerial lines carrying alternating current and other cable systems, will not be permitted over electrified railways

10. DISPOSAL OF EXCAVATED MATERIAL

Material from excavations shall be deposited in a position and manner approved by the Engineer and shall be kept clear of track ballast so as to avoid fouling of ballast and blocking of track drainage. Under no circumstances shall soil be thrown directly onto the track ballast. The property of the Corporation shall be left in a clean and tidy condition.

11. CARRYING OUT WORKS

- a. No installation shall be commenced on or over the property of the Corporation until details of the proposal have been submitted in writing to, and approved by the Engineer and the conditions imposed have been agreed to in writing by the Owner.
- b. Work shall be carried out only in the manner and at such times as directed by the Engineer and to his satisfaction. The specified notice must be given prior to commencement of the work. Blasting shall only

be carried out in accordance with the conditions laid down by the Engineer.

- c. Any work within 4600mm of the vertical projection of the outer rails of any track or any other portion of the work so determined shall be carried out only in the presence of the Engineer's representative and in accordance with his directions.
- d. All overhead lines shall comply with the Victorian Electricity Safety Act and associated Regulations, also with those of New South Wales for work in that State, except insofar as they are modified by these conditions.
- e. Work or the use of mechanical appliances for excavating or lifting within 6400mm of the Corporations aerial direct current or high voltage alternating current lines is subject to the Train Infrastructure Electrical Safety Rules (High Voltage Rules).
- f. The Engineer shall have power to order the suspension of work if he considers that it is being performed in an unsafe or unsatisfactory manner and the carrying out of additional works to ensure compliance with these conditions.

12. CONDUCTORS

- a. The ultimate tensile strength of any conductor shall be, for high voltage, not less than 5.4kN, or for low voltage, not less than 3.1kN. In calculating the stresses on composite cables constructed with a neutral screen, the strength of the cable shall be considered to be the combined strength of the active conductors only. In composite cables constructed with a supporting catenary wire or wires, the strength of the cable shall be considered to be the strength of the supporting wire or wires. Each conductor shall consist of at least three separate strands.
- b. Regular inspections of crossing spans shall be made and conductors shall be renewed immediately there is any sign of defect.
- c. Splices or joins shall not be made in conductors of crossing spans.
- d. No current carrying connection of any kind shall be made to any portion of a crossing span which is under tension.

13. SUPPORTS

- a. The construction of supporting structures for crossing spans shall be such that, in the event of conductors breaking in an adjoining span, the conductors in the crossing span will maintain the clearances to those parts of the railway system specified in these conditions.

Crossings shall be terminated at each end of the span with strain type insulators and supporting structures shall be guyed, unless otherwise advised by the Engineer

- b. Overhead line supporting structures shall be erected so that the minimum distance from the: -
- centre line of the nearest track is 10000mm
 - aerial high voltage line is 5000mm
 - aerial low voltage line and Other Cable Systems is 3000mm
 - boundary fence is 4600mm
 - toe of banks or top of cuttings, is 3700mm

At least one structure shall be located as close as possible to the railway subject to the foregoing provisions.

- c. Where guys are on railway property, their position shall be approved by the Engineer. A strain insulator shall be inserted in the guy wires and the guy wire shall be fitted with a white painted hardwood batten not less than 75mm x 50mm (or an equivalent warning tube) for a vertical distance of 1800mm above ground level. Each guy shall be tensioned sufficiently to prevent excessive sag in the guy wire. The use of "Footpath Guys" is not permitted.
- d. Crossarms not fitted to the top of the pole, shall be fitted to that side of the pole which is farthest from the railway tracks. The use of "Offset Crossarms" is not permitted.
- e. Regular inspections of wooden poles shall be made by the Owner and any found not to be safe for the next inspection period, shall be suitably marked and replaced, as follows: -
- "Limited Life" – Changed within one year
 - "Unservicable" – Changed within six weeks
- Only "Unservicable" poles which are unable to be replaced in the above specified period, may be staked and then must be changed within one year.
- Staking of poles is permitted for urgent temporary repairs only, with the Corporation to be notified.
- The Corporation reserves the right to test poles if considered unsafe.

14. CLEARANCES

- a. An aerial line carrying alternating current, must not at any time, be closer to a part of a railway system specified in table 1, than the relevant minimum distances in that table.

- b. A high voltage aerial line carrying alternating current, crossing over an electrified railway, must not at any time, be closer than 900mm above a straight line joining the higher of the supporting points of the spans of the d.c. train traction conductors and other cable systems.

TABLE 1

Nominal Voltage 'U' of Crossing (a.c.) Conductor	Minimum Distance From Part Of A Railway System				
	Other Cable Systems		Above Rail	Aerial Alternating (a.c.) and Direct Current (d.c.) Lines	
	From Conductors	From Supports		From Conductors	From Supports
$U \leq 1\text{kV}$	900mm	2700mm	7100mm	900mm (a.c. $U \leq 1\text{kV}$ only)	2700mm
$1\text{kV} < U \leq 22\text{kV}$	1800mm	4000mm	7600mm	1200mm	3700mm
$22\text{kV} < U \leq 66\text{kV}$	2400mm	4600mm	7600mm	1800mm	4600mm
$66\text{kV} < U \leq 132\text{kV}$	3000mm	4600mm	7900mm	2100mm	4600mm
$132\text{kV} < U \leq 275\text{kV}$	3700mm	6100mm	9000mm	3000mm	5500mm
$275\text{kV} < U \leq 330\text{kV}$	4600mm	7600mm	9800mm	4000mm	6400mm
$330\text{kV} < U \leq 500\text{kV}$	6100mm	9100mm	11300mm	5500mm	7900mm
Over 500kV	9100mm	10700mm	as for 500kV plus 300mm for every 33kV above.		