Standard

Transmission Line Support Structure Climbing Barrier Standard

R1109059

Version 2.0, March 2021

Authorisations

Action	Name and title	Date
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Review cycle	30 months	

Responsibilities

This document is the responsibility of the Asset Strategy Team, Tasmanian Networks Pty Ltd, ABN 24 167 357 299 (hereafter referred to as "TasNetworks").

Please contact the Network Asset Strategy Leader with any queries or suggestions.

- Implementation All TasNetworks staff and contractors.
- Compliance All group managers.

Minimum requirements

The requirements set out in TasNetworks' documents are minimum requirements that must be complied with by all TasNetworks team members, contractors, and other consultants.

The end user is expected to implement any practices which may not be stated but which can be reasonably regarded as good practices relevant to the objective of this document.

Record of revisions

Section number	Details
All	Amended to reflect TasNetworks branding and document numbering

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1 General

1.1 Purpose

To provide information and uniform technical standards for the installation of transmission line support structure climbing barriers.

1.2 Scope

This standard applies to all new and upgraded transmission line support structures owned by TasNetworks.

1.3 Objective

To provide and promote consistent design and installation requirements for support structure climbing barriers on TasNetworks transmission lines for the protection of TasNetworks' assets and public safety.

1.4 Definitions

OPGW	Optical Ground Wire

1.5 References

TSD-SD-808-0014-001	Transmission Lines Anti Climbing Barrier Arrangement
TSD-SD-808-0014-002	Transmission lines Anti Climbing Barrier Details
A1-5753 (Superseded)	Tower climbing barrier assembly
A1-11095 (Superseded)	LI-PM 220 kV transmission line anti climbing device
ENA DOC 015-2006	ENA National Guidelines for Prevention of Unauthorised Access to Electricity Infrastructure

2 Transmission line support structure climbing barriers

Climbing barriers are to be fitted to transmission line support structures to deter the public from climbing the support structures and approaching:

a) the high voltage conductors of the overhead transmission circuit(s); and
b) other critical ancillary equipment contained on some support structures.

A climbing barrier shall be installed to all steel lattice type support structures meeting the following criteria:

c) located within proclaimed town and city boundaries;
d) located in school grounds or within 500 metres of school grounds;
e) located within 150 metres of a highway or public road;
f) located within 150 metres of rural housing;
g) containing critical ancillary equipment within the support structure (eg OPGW joints, weather station equipment); or
h) where the Transmission Lines Manager considers discretionary application is necessary (eg where regular community activity occurs adjacent to or under the transmission line).

Pole type support structures do not require the installation of climbing barriers due to their physical shape, and lack of projections at their lower levels, providing sufficient difficulty in climbing to restrict unauthorised access to their upper levels.

Where climbing barriers have previously been installed on support structures prior to the issue of this standard, and are at locations above and beyond those required by this standard, those climbing barriers shall remain and will not be considered as setting a precedent for deviation from the requirements of this standard.

2.1 Standard climbing barrier type

A standard climbing barrier to TSD-SD-808-14-001 shall be fitted where a climbing barrier is required to be installed.

The standard climbing barrier has been designed with an integral access gate located on the support structure climbing leg, to enable 'controlled' safe access through the climbing barrier for authorised personnel, without the use of externally placed ladders.

2.2 Non-standard climbing barrier types

All new installations of climbing barriers shall be to the standard climbing barrier type, as specified in Section 2.1.

Previously installed climbing barriers of a type that do not significantly differ from the standard climbing barrier type, as specified in Section 2.1, shall be allowed to remain (refer drawing A1- 05753 and A1-11095). All other climbing barriers shall be considered to significantly differ from the standard climbing barrier type, and as such shall be programmed for replacement.

2.3 Installation of climbing barriers

The support structure climbing barrier shall be installed in accordance with all requirements of TSD-SD-808-14-001. Specific attention shall be given to the following requirements when installing the climbing barrier:

a) the height of the climbing barrier is to be between 3.5 and 6.0 metres above ground level at the shortest leg (refer drawing TSD-SD-808-14-001);
b) while still maintaining compliance with 2.3(a), climbing barriers shall be installed such that they are positioned below the lowest point of any Latchways fall arrest system that is installed on the structure. If these requirements cannot be achieved then advice shall be sought from the Transmission Lines Manager regarding the preferred solution;
c) the climbing barrier access gate must be installed so that it opens upwards and is unhindered in opening fully back over onto the top of the barbed wire. This will require careful placement of the height of the climbing barrier relative to surrounding steel member bracing and step bolts so that the access gate is unhindered in its operation. An incorrectly installed access gate poses a safety hazard and is not acceptable.

Refer to Figures 1 and 2 for layout photographs of an installed standard climbing barrier.

Figure 1 – Standard climbing barrier general arrangement

Figure 2 – Standard climbing barrier corner arrangement

2.4 Installation of security locks to climbing barrier access gates

Upon full installation of the climbing barrier a security lock shall be installed on the tower access gate to control access and hinder public entry. The security lock shall be a:

a) Lockwood lock, type 234AB, All Brass - TBB / ABUS No.83145 - TBB, keyed to system GMK-JE4 and individual key. Note that previous TBL has been superseded but is still in the field and is in the process of being progressively changed out.

2.5 Coordination of climbing barriers and fall arrest systems

The design and installation of climbing barriers on support structures must consider the application of standardised work methods for climbing and working at heights, including fall arrest systems as detailed in AS 7000 Appendix M and live line working procedures to SAA AS 5804.