

Objective

1. This Supplement

This document sets out details of the 2.5% rule (**Supplement**). Until the Deployment Standard for Telstra Antenna Support Structures (technical document 018947) (**Deployment Standard**) is updated to include details of the 2.5% rule, please read this Supplement in conjunction with the Deployment Standard.

The Deployment Standard and this Supplement form part of Telstra's Technical Specifications and Procedures under the Customer Relationship Agreement and the Facilities Access Technical Requirements under the Telstra Wholesale Agreement. They have force and effect in accordance with those agreements and can be varied by Telstra in accordance with those agreements.

2. Purpose of the 2.5% rule

The 2.5% rule is an engineering practice, accepted by the telecommunications industry, which enables an Access Seeker to deploy equipment on a Telecommunications Tower (**Structure**) without undertaking a structural upgrade in certain circumstances. Where the 2.5% rule is applied, Telstra's reservations are discounted in a structural loading analysis.

Controls

3. The 2.5% rule Business Rules

All Access Seekers, including Structure owners and access providers,¹ can use and apply the rule, subject to the following conditions:

- ☛ **Business Rule 1:** The 2.5% rule can **ONLY be used by an Access Seeker** that has **existing** equipment installed on a Structure at a site.²
- ☛ **Business Rule 2:** An Access Seeker can **use the 2.5% rule ONCE ONLY** on a Structure at a site.²

Process / Practice

4. Structural Loading Analysis

Typically a structural loading analysis is performed by an accredited structural engineering company that has been engaged by an Access Seeker during the design development stage of the colocation process.

The results of the analysis determine whether the Structure will or will not exceed its total loading capacity. Typically a structural loading analysis³ factors in the status of all existing and proposed occupancies (vertical space) on the Structure, including the following factors:

¹ Access Seekers means carriers and non-carriers, third parties or representatives including a lead Access Seeker in Joint Ventures. As per industry accepted practice, Structure owners and access providers are also included.

² If an Access Seeker does not have existing equipment on a Structure where it is seeking to gain access, it is not eligible to use the 2.5% rule. This also includes sites with more than one Structure and/or Access Seekers who may have existing equipment on more than one Structure on a site. This rule also includes Structures on a telecommunication building rooftop.

³ A Structure is subject to a number of internal and external stresses and forces (**loads**) that ultimately limit its service life. These loads, measured in newtons per millimetre or Kn/m², include: **Dead Loads** – Load of the Structure itself and any permanent fixture on that Structure; **Live Loads (or Dynamic)** - Load of Equipment added or removed from that Structure; and, **Environmental Loads**– Loading effects of wind (cyclonic), snow or earthquake (seismic). All references to loads in this Supplement are dynamic loads only.

1. The total loading capacity or loading limit of the Structure⁴
2. The Access Seeker's proposed occupancy or load (which is converted to an approved reservation at the AIP Level 2 stage of the colocation process)
3. Telstra's existing and proposed (reservations) occupancies (provided to the Access Seeker in the queue list at the PIR Level 1 stage of the colocation process)
4. All other Access Seeker existing and proposed (reservations) occupancies (provided to the Access Seeker in the occupancy list at the PIR Level 1 stage of the colocation process)
5. Previous structural analysis reports and the previous status of the Structure's loading capacity and if upgrade works were recommended

(Refer to **Point A** in the Flowchart)

5. When to apply the 2.5% rule

If the result of a structural loading analysis indicates that the Access Seeker's proposed load together with all existing and proposed occupancies on the Structure:

- A. Is Equal To or Exceeds its total loading capacity ($\geq 100\%$) then the Access Seeker may consider applying the 2.5% rule;⁵ or
- B. Not Exceeds its total loading capacity ($<100\%$) then the Access Seeker does not need apply the 2.5% rule, as the Structure can accommodate the Access Seeker's additional load.

(Refer to **Point B** in the Flowchart)

6. Applying the 2.5% rule and Telstra's Reservations

If the Access Seeker is eligible to apply the 2.5% rule and the Structure equals or exceeds its total loading capacity, calculated in accordance with section 5 of this Supplement, the Access Seeker can apply the 2.5% rule.

How to apply the 2.5% rule

- 1 The first step is to consider factors 1, 3 4 & 5 in section 4 of this Supplement and the accumulative loading effect on the Structure's total loading capacity. Then the other factor (factor 2 in section 4 of this Supplement) should be considered for the loading effect of the Access Seeker's proposed load on the Structure.
- 2 The second step is to quantify the change in load on the Structure with all the factors in section 4 of this Supplement considered. Theoretically this is calculated by subtracting the results of the Structure's total load with and then without the Access Seeker's proposed load. The difference or change is expressed as a percentage and termed as the "differential load" to the loading status of a Structure's total loading capacity.
- 3 The final step is to determine whether the "differential load" allows the Access Seeker to discount Telstra's proposed loads (reservations) or not using the following formula:

$< 2.5\% = \text{Positive result, -Telstra reservations can then be discounted}$

$\geq 2.5\% = \text{Negative result - Telstra reservations cannot be discounted}$

(Refer to **Point C** in the Flowchart)

⁴ A Structure has exceeded its total loading capacity or loading limit if the total loading capacity $\geq 100\%$.

⁵ Provided the Access Seeker has satisfied the Business Rules.

2.5% Structural Loading Rule

Supplementary Document



A positive result allows an Access Seeker to discount Telstra's proposed loads (reservations).

Discounting or not factoring in Telstra reservations in a structural loading analysis results in a reduction in the load on the Structure. Where the total load with Telstra reservations discounted is equal to or under 100%, the Access Seeker will not be required to upgrade the Structure.

Influences

7. Influences on the factors to be considered as part of the 2.5% rule

Key factors such as the occupancies on a Structure used in a structural loading analysis directly determine whether the Access Seeker's proposed load results in the Structure exceeding its total loading capacity. As occupancies on a Structure vary over time (including as a result of an Access Seeker's position in a queue relative to other Access Seeker's requests), the timing of an Access Seeker's request may have an impact on whether the 2.5% rule is available and whether an Access Seeker will be required to upgrade the Structure.

2.5% Structural Loading Rule

Supplementary Document



Supporting Information

8. Colocation/Site Share Process and the 2.5 % rule (Flowchart)

