Fire Life Safety Standards Suite

May 2025

For Noting

Interchanges and Buildings, TfNSW

NSW GOVERNMENT

Acknowledgement of Country

Transport pays respect to Elders past and present, and recognises and celebrates the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of NSW.

Interchanges and Buildings

Purpose

OC1 **Connecting our customers' whole lives**

OC2 **Successful places for communities**

OC3 **Transport systems and solutions enabling economic activity**

OC4 **Thriving people doing meaningful work**

We drive Transport towards ***outcomes***

that maximise whole of life ***value*** *for our* ***customers***

by discharging ***technical leadership***

that is enabled by collaborative ***partnerships***

Technical Leadership
- *Frameworks and policies* - *Strategies and plans* - *Standards* - *Assurance and audit* - *Technical capability* - *Asset management maturity*

Partnerships
- *Asset owners, custodians and stewards* - *Regulators* - *Peak bodies* - *Interdependent agencies* - *Interstate and international counterparts* - *Service providers*

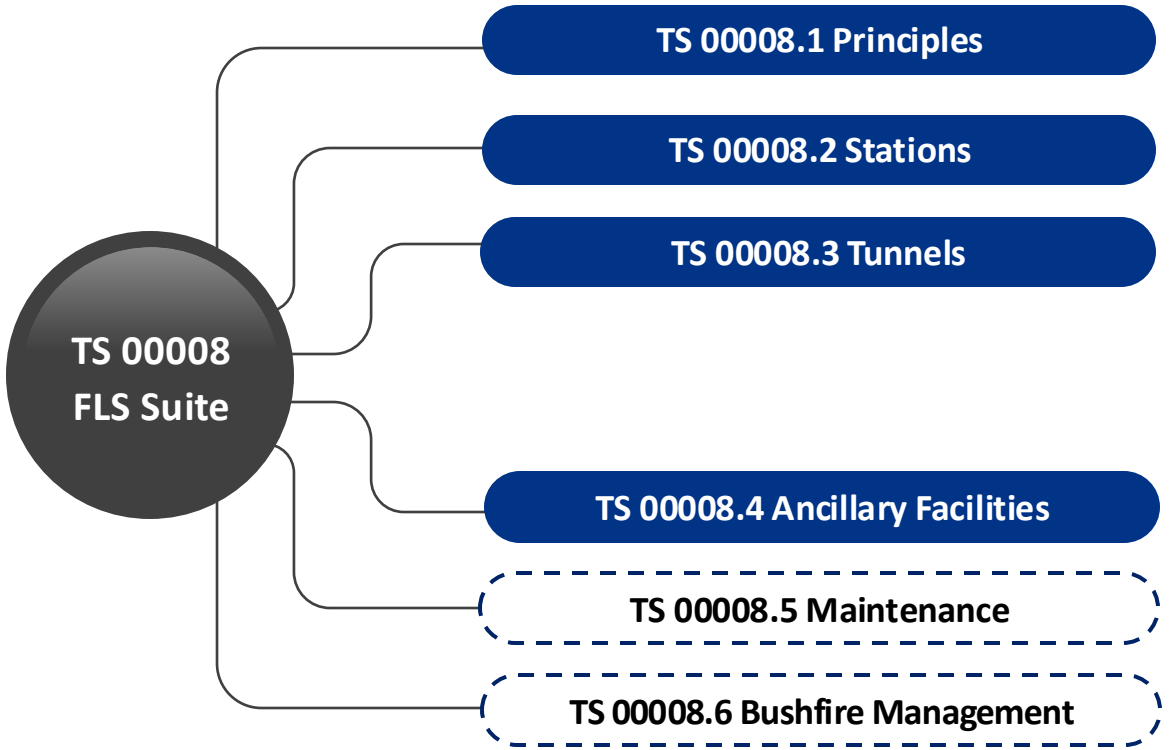
Fire Life Safety Suite

Published

In draft

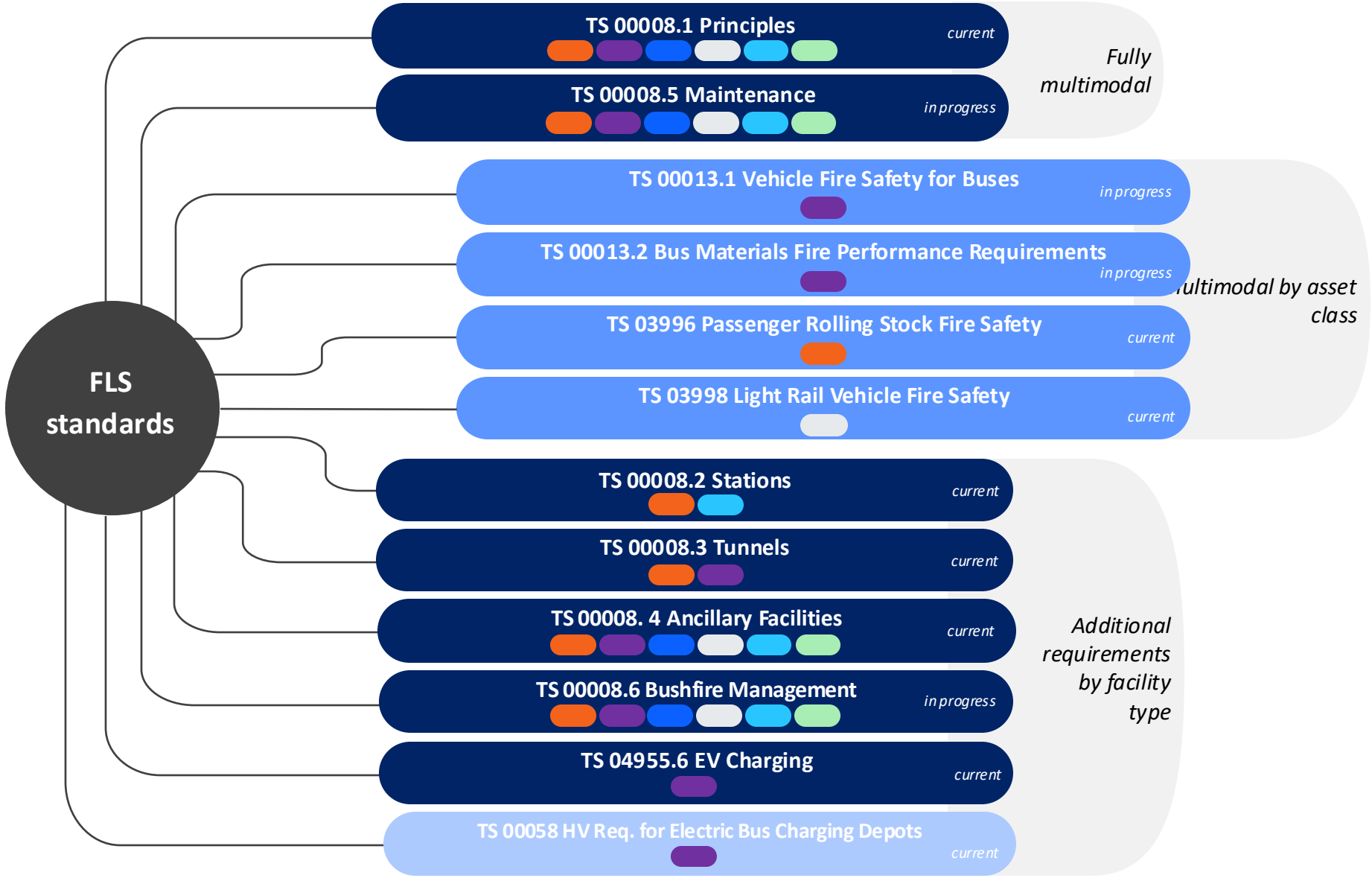
Fire Life Safety Suite

Technical standards updates and the forward roadmap for the standards being developed by Interchanges and Buildings.



Fire Life Safety standards

Interchanges and Buildings
Fleet
Energy Network & Systems
HR RD MA LR MT AC



TS 00008.1 FLS Principles

The FLS principles address:

- ✓ Fire life safety compliance framework;
- ✓ Fire life safety objectives and principles from a TfNSW prospective;
- ✓ Assurance requirements in terms of record keeping, risk management, design construction and operation process highlighting documentation and consultation expectations;
- ✓ Fire safety engineering report requirements (formally recognising the AFEG process);
- ✓ Process methodology and analysis for asset fire safety strategy; and
- ✓ Fire life safety services design life expectancy.

TS 00008.1 sections and functional outcomes

01

Application of standards to new and existing sites

Provides direction of the application of the standard to new and existing sites to remove ambiguity.

02

Objectives

Highlights the objectives that are to be meet through the design process and by the asset steward during the ongoing maintenance of the asset.

03

Principles

Provides clear guidance on the principles to be applied during the fire life safety design process.

04

Asset fire life safety strategy

Provides for the documented process of the installed fire safety systems and how these systems reduce the fire risk in SFARIP. Further provides requirements for these to be updated as the asset is updated and periodically to be reviewed to check if the strategy in its current form is fit for purpose.

05

Fire services design

Provides for the minimum expected design lifecycle of equipment based on routine maintenance in accordance with AS 1851 and manufacturer recommendations.

06

Fire safety engineering requirements

Formal recognition of AFEG process.

07

Assurance requirements

Assurances to be provided during the design delivery process.

TS 00008.2 Stations

FLS Stations address:

- ✓ Compliance framework specific to station fire safety systems;
- ✓ Principles applicable to a station environment;
- ✓ Above ground station fire safety system requirements;
- ✓ Underground station fire safety system requirements; and
- ✓ Ancillary system requirements indirectly associated with fire services such as drainage, mechanical systems, electrical systems, operations (incident response), security system interface, vertical transport system.

TS 00008.2 sections and functional outcomes

01

Application of NCC to stations

Provides clear direction that the certifier is to determine the appropriate building classification of station.

02

Principles

Provides clear guidance on the principles to be applied during the fire life safety design process with specific requirements for stations.

03

Fire safety requirements in above ground stations

Provides clear guidance on the requirements of fire safety systems to be installed in above ground stations, removing ambiguity and establishing a consistent design output.

04

Fire safety requirements in underground stations

Provides clear guidance on the requirements of fire safety systems to be installed in underground stations, removing ambiguity and establishing a consistent design output.

05

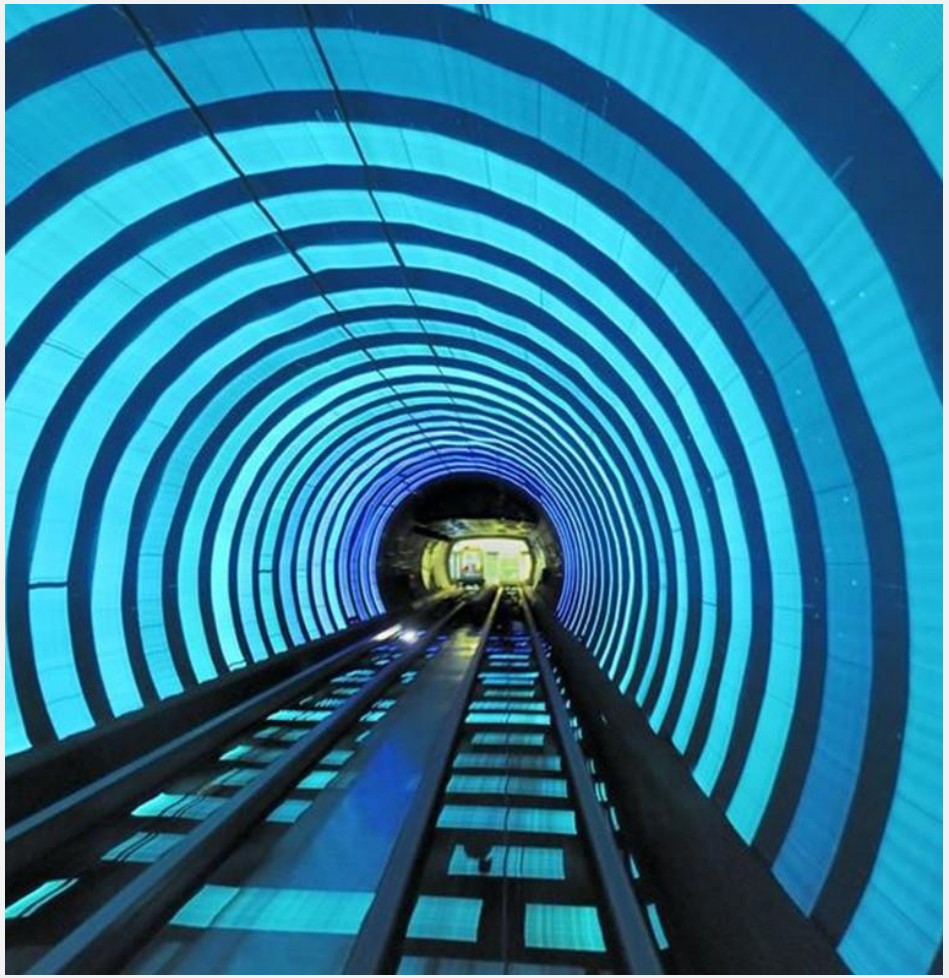
Ancillary systems

Provides minimum requirements and guidance on how ancillary systems are to be designed and incorporated for use in an emergency scenario and how ancillary systems enhance the emergency response towards facilitating safety.

TS 00008.3 Tunnels

The FLS Tunnels address:

- ✓ Fire life safety requirements in:
  - Rail Tunnels
  - Road Tunnels
  - Pedestrian/Bicycle Tunnels
  - Services Tunnels
- ✓ Fire brigade firefighting requirements and principles;
- ✓ Interfacing requirements with respect to TS 01722.1 Tunnels Civil Standards; and
- ✓ Interfacing requirements with respect to TS 04955.5 Services Systems and Equipment requirements in tunnels.



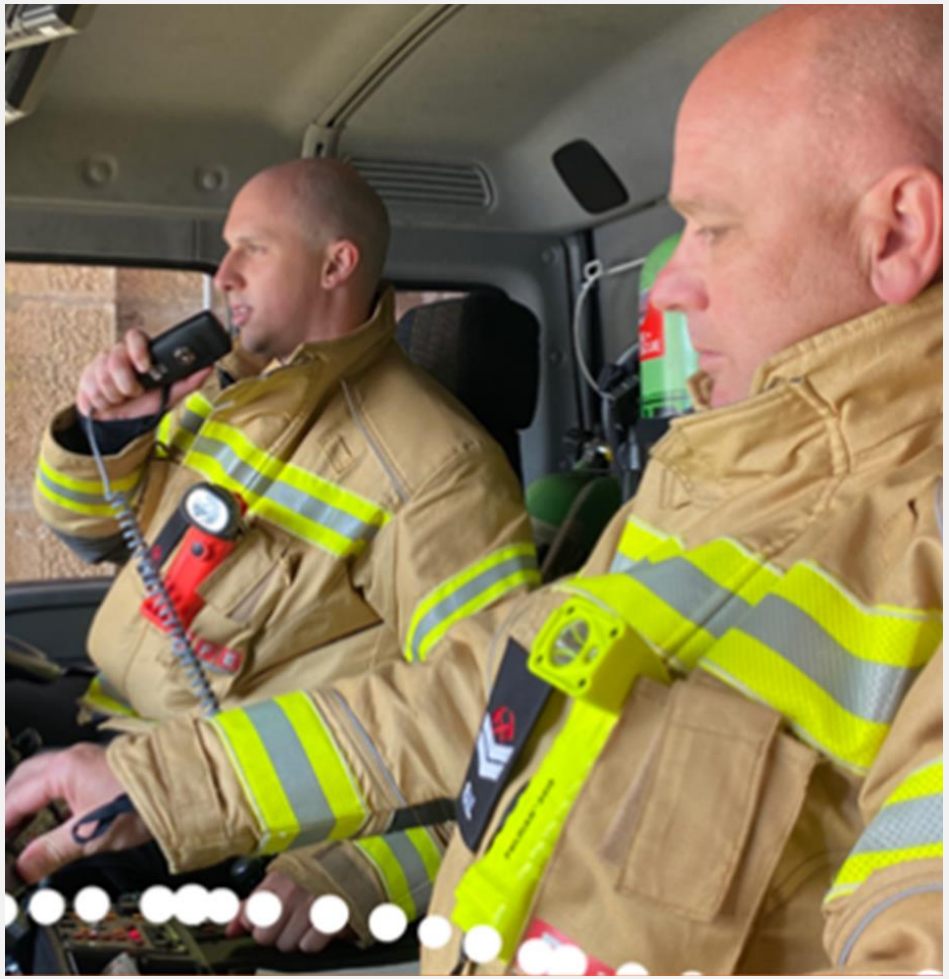
TS 00008.3 Tunnels Summary

	Rail	Road	Pedestrian/Bike	Services
FRL	120/120/120 & 240/240/240	120/120/120 & 240/240/240	120/120/120	120/120/120
Fire detection	FE in the tunnel Required in equipment rooms	FE in the tunnel Required in equipment rooms	Fire engineered	Required
Fire suppression	Fire engineered	Fire engineered	Fire engineered	Project specific assessment
Hydrants	Required	Required	Fire engineered	Project specific assessment
Smoke management	Fire engineered	Fire engineered	Fire engineered	Fire engineered
Extinguishers	Required	Equipment rooms	Required	Required
Egress (and access)	Cross passages at 240m	Cross passages at 120m	60 m	850 mm unobstructed width

TS 00008.4 Ancillary Facilities

Requirements within the standard will address the following component for the different types of buildings:

- ✓ Requirements addressing and supporting the operation of the facilities;
- ✓ Requirements related to fire and life safety strategy, including continuity of operation, emergency response and post-event recovery; and
- ✓ Requirements for active and passive fire safety systems to mitigate risk.



TS 00008.4 Ancillary Facilities

Principles

This section focuses on the primary design outcomes and process for consideration when choosing and designing the fire safety systems to be installed within these types of buildings.

- ✓ To define the minimum fire life safety requirements for the ancillary facilities
- ✓ Bush fire assessment
- ✓ Environmental considerations
- ✓ Protection for plant in special environment
- ✓ Structural considerations
- ✓ Banned substances
- ✓ Environmental impact
- ✓ Fire risk assessment

TS 00008.4 Ancillary Facilities

Risk and Management

Key risks to be managed by this standard

✓Over/under-engineered fire protection systems based on generic compliance

- Control: Apply intelligent compliance to balance cost, risk and performance for various fleet and equipment

✓Alignment with asset fire life safety strategy

- Control: Identify high risk areas requiring treatment via performance solutions

FLS standards in draft

TS 00008.5 FLS Maintenance

Requirements in line with AS 1851 and TfNSW expectation for annual fire safety certificate requirements for installed fire safety systems. This includes review of processes currently employed on assets not listed in the NCC such as:

- Tunnel fire safety systems
- Fleet fire safety systems

TS 00008.6 FLS Bushfire safety

- Requirements around bush fire management and risk assessment in bush fire prone areas
- Bushfire risk assessment tool for roads and built infrastructure