

Assessing a proposal for signal key switch installation

1. Introduction

This standard provides guidance to Rail Infrastructure Managers (RIMs) when assessing a proposal to install a signal key switch (SKS) in the Sydney Trains Network. This standard is to be applied in conjunction with the requirements in *Signal Design Principle TS 05333.21*.

2. Scope

This standard applies to the installation of a new SKS or modification of an existing SKS.

3. References

NWT 306 Track Work Authority

NWT 320 Signal Key Switch Protection

NPR 702 Using a Track Work Authority

NPR 753 Using Signal Key Switch Protection

NPR 754 Operating a Signal Key Switch

NRFM-0921 Signal Key Switch Proposal Assessment Form

Signal Design Principle TS 05333.21

Assessing a proposal for signal key switch installation

4. General

A proposal to install a new SKS or modify an existing SKS should be considered only if the proposal satisfies the following criteria:

- the signal is an automatic signal on a unidirectional line
- a genuine operational need can be demonstrated
- the SKS location does not introduce any new workplace health and safety (WHS) hazards
- the SKS location does not introduce any new rail safety risks
- the proposal includes the following information:
 - the name of the line
 - the number of the signal to which it will be fitted
 - the number of the signal to which protection provided by the SKS signal will extend
 - the number of the first signal before the SKS signal
 - that will not be affected by the removal of the key.

Assessing a proposal for signal key switch installation

5. Operational needs

A proposal to install an SKS must demonstrate an operational benefit.

- Factors that might influence the assessment of a proposed installation of an SKS include:
- the availability of safe places at the location
- the frequency of on-track activities
- the distance from a controlled signal that can be used for protection
- the difficulty of implementing other work on track protection methods
- the availability of effective communications between Handsignallers, Protection Officers and Signallers, for example mobile telephone and two way radio coverage, existence of signal phones.

6. Rail safety considerations

The portion of track that the SKS signal would protect must not extend beyond:

- a Yard Limit
- another signal fitted with an SKS.

The installation of an SKS should be considered only if the assessment demonstrates that:

- the SKS does not introduce any new rail safety risks, or
- any new rail safety risks will be effectively controlled.

Assessing a proposal for signal key switch installation

Examples of rail safety considerations include, but are not limited to:

- signal sighting conditions
- if the SKS signal, is a multi-SPAD signal
- potential for rail traffic to enter the worksite location from an intermediate entry point such as an intermediate siding
- potential for operation of the SKS to affect the operation of tonnage signals.

7. WHS considerations

The installation of a SKS should be considered only if a assessment demonstrates that:

- the SKS does not introduce any new WHS risks, or
- any new WHS risks will be effectively controlled.

Examples of WHS considerations include, but are not limited to:

- the potential for workers to be struck by rail traffic during access to and egress from the SKS
- the potential for workers to slip, trip or fall during access to and egress from the SKS, including if ballast is high or steeply-sloped
- is there level ground or a platform from which a Handsignaller can operate the SKS.

Assessing a proposal for signal key switch installation

8. Stakeholders

The Signal Key Switch assessment on site must include the following representatives:

- Network Rules
- Signal Design and/or Regional Signal Engineer
- Train Driver
- Protection Officer

9. Approval

A decision to install a new SKS or modify an existing SKS will be based upon the outcome of the SKS Proposal Assessment.

Approval will be given only if the proposal review has identified that there is a demonstrable operational benefit and the assessment demonstrates that any new risks introduced are effectively mitigated SFAIRP.

Approval must be documented in *NRFM-0921 Signal Key Switch Proposal Assessment Form* by both:

- Professional Head, Signalling and Control Systems, Sydney Trains
- Director Network Standards, Systems & Quality, Sydney Trains

10. Appendix

NRFM-0921 Signal Key Switch Proposal Assessment Form

11. Effective date

02 June 2024

RailSafe Signal Key Switch Proposal Assessment Form

1 Signal details

Signal number: Kilometrage:

Line name:

Nearest location:

First signal that would be affected by operating the signal key switch:

Last signal to which signal key switch protection would apply:

2 Operational need Briefly summarise the benefits that installing a signal key switch on this signal would bring.

3 Operational risks Tick or cross each item.

- The line is unidirectional
- The signal is not a multi-SPAD signal in the SPAD Signal database
- The signal is not in a tunnel or on a gantry
- The signal sighting has been assessed to be in accordance with ESG 100 Signal Design Principles
- The signal will not affect the level crossing or stopped rail traffic will not obstruct a level crossing
- Adequate communication is available from the SKS signal in the area

Comments

4 Tonnage signals Tick or cross the item. If crossed, attach details of additional assessment.

- The signal is not a tonnage signal and does not affect a tonnage signal

RailSafe Signal Key Switch Proposal Assessment Form

5 Work, Health and Safety hazards Tick or cross each item.

- A Handsignaller can operate the signal key switch from a safe place
- There are no significant slip, trip or fall hazards near the signal
- The ballast profile is not overly steep
- A WHS assessment has been completed

Comments

6 Signal key switch operating needs Tick or cross each item. Attach any supporting documents.

- Additional safety measures for the Handsignaller are not required.
- OR
- The additional safety measures listed below are required, and must be included in the design requirements (e.g. railing, platform or signal telephone)

7 Assessment participants Date of Assessment

Name	Position

8 Approvals

	Name	Signature	Date
Professional Head Signalling & Control Systems Sydney Trains			
Director, Network Standards, Systems & Quality Sydney Trains			