



Network Improvement
The management and investigation of Signal Passed at Danger (SPAD) Incidents

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1. Introduction

This document summarises the requirements covering the investigation and management of SPAD incidents and the additional monitoring, coaching and support arrangements for Train Operators and other staff who are considered to be responsible for (or involved in) an incident. This document supersedes the 2002, **THE INVESTIGATION AND MANAGEMENT OF SIGNAL PASSED AT DANGER (SPAD) INCIDENTS**

The need to provide timely and appropriate support to Train Operators involved in SPAD incidents is recognised. This can be achieved by effective learning and communication, to raise Train Operator awareness of potential problems and the proper investigation and analysis of SPAD incidents with, where appropriate, action plans to improve performance.

The objective is to achieve a reduction in the number of SPAD incidents on the Underground by the implementation of this policy and through your professionalism in operating our trains.

Consultation on this approach has taken place at a Joint Working Party of the Trains Health & Safety Council and Trains Functional Council.

2. Training and assessment of competence

All Train Operators will be trained and assessed in techniques that are designed to reduce the likelihood, and lessen the consequences, of a SPAD. Core, line and stock training and competence assessment will be based on the operational safety risks that the Train Operator will experience.

The training programme will include information on all “Multi-SPADed” signals, and potential signalling traps and in the techniques to use at these locations to reduce the likelihood of a SPAD occurring.

Instructors and others involved in training and competence assessment must themselves have a thorough understanding of, and be assessed as competent in, train driving; including signalling risks and multi-SPAD signals.

As part of the final qualification / practical assessment a Train Operator will be assessed to establish that the required competence has been achieved. Competence assessment will take place over the route(s) that the Train Operator will operate when qualified and consist of a mixture of daylight and night-time driving together with a test of underpinning knowledge that includes SPAD risks.

3. Management and investigation of Signals Passed at Danger incidents

Train Operators and personnel involved with the safe movement of trains must immediately report all instances of a Signal Passed at Danger without authority. Failure to report a SPAD will be treated as gross misconduct.

The Service Manager shall determine if the Train Operator should be relieved immediately, after taking account of the circumstances of the SPAD and the Train Operator’s safety performance at work record. If appropriate, the Train Operator will drive the train to a location where relief can be carried out.

The Duty Manager conducting the initial investigation will make arrangements for evidence such as train handling / system recordings, signalling recordings, radio messages etc. to be preserved and interview and obtain written reports from all LU employees and contractors involved in the incident.

If the equipment or infrastructure (signal, train, track) is alleged to be defective in any way, the Signal Operations Manager and / or Duty Depot Manager and / or Duty Engineer (Track) will be notified with relevant details, including the Train Operator’s report on the incident.

The investigation will as far as possible establish both the immediate and underlying causes of the incident, drawing on the support and expertise of appropriate personnel, to establish the immediate and underlying causes of the SPAD. Particular attention will be given to relevant “Human Factor” issues that may have contributed to the cause of the incident. Wherever appropriate, the Train Operations Standards Manager will contribute to and may be responsible for the conclusion of the investigation.

Information will be entered on the Electronic Incident Report Form (EIRF), the SPAD Continuation form and London Underground Safety and Environmental Analysis (LUSEA) database which is used for trend and causal analysis purposes.

The Train Operations Manager, will convene a Signal Sighting Committee, to an agreed timescale, to assist the investigation of an identified (or alleged) problem location. This will be commissioned, when:

- There is a report of a problem location which requires investigation by a Signal Sighting Committee
- Where factors associated with the incident concern the driver/train/signal interface and it has not been possible to identify the cause(s) of the SPAD incident or the incident justifies a more in-depth investigation; or
- The incident is the second SPAD incident at the signal during the previous 12 months; or
- The signal has been passed without authority more than once during the previous 5 years and the incidents indicate a recognisable pattern; or
- The signal has been passed more than once within 5 years and it protects conflicting movements.

There is no requirement to set up a Signal Sighting Committee if:

- One was convened following a previous report / SPAD incident at that signal, and;
- The report is comprehensive and all the factors relevant to the latest incident were considered within the investigation by the Signal Sighting Committee, and;
- No change has taken place to the signal or its location, which could affect those factors.

When the investigation is concluded, the Train Operations Manager in conjunction with the Duty Manager who investigated the incident will confirm the immediate and root / underlying causes and consider the safety performance record of those found to be responsible and establish if the incident is indicative of any underlying trend. They will also consider if those held responsible for the cause of the incident are safe to continue working safety critical activities and if any retraining, counselling or disciplinary action is required.

Recommendations for implementation will be allocated to those responsible for progression within a realistic timescale that reflects the risk.

Should the investigation conclude a deficiency in competence on the part of the Train Operator, an action plan must be agreed and the Train Operator provided with a copy of the plan in writing. Train Operators found responsible for the cause of the SPAD incident shall be considered for additional monitoring, support and coaching – see Section 4.

Records are kept by SQE of all SPAD incidents. These are collated and communicated in a Periodic report, derived from London Underground Safety and Environmental Analysis, for the attention of the Corporate SPAD Focus Group and Line Trains Management. It is this report that alerts the line to the repeated passing of a Signal which raises its profile to a “Multi-SPAD” Signal.

SPAD Focus Groups have been established to develop and agree appropriate action plans. These include representation at the National SPAD Focus Group, Workshops and Conferences.

4. Additional monitoring, support and coaching

Train Operator records will be reviewed at regular intervals to establish those who are considered as having the potential to cause unacceptable risk to train operations.

The safety performance of each Train Operator will be assessed against the following operational incidents:

- Signals Passed at Danger (SPAD);
- Collision with other vehicles or buffer stops;
- Derailments;
- Excess speed incidents;
- Station overruns that require special arrangements to be carried out;
- Failure to stop at a station;
- Platform Train Interface Incidents e.g. Wrong side door operation;
- Failing to demonstrate due competence as a train Operator.

Incidents failing within the 10 year period immediately prior to the review date will be used for this assessment. (Incidents that were concluded to be due to a failure of equipment or where the circumstances are out of the control of the Train Operator will not be considered within this process).

A Train Operator's suitability for driving duties will normally be considered after four of the operational incidents listed above in any two-year period. The two-year period reviewed for this purpose will end on the date of the last incident. However, a single incident or circumstance and / or significant incidents, trends or a recurrence of "human factor" concerns within the preceding 10 year period shall require the threshold to be reduced and immediate action to be implemented.

Train Operators who reach the threshold will be required to attend a case conference either to agree an action plan or, with the agreement of the Train Operator concerned, to seek redeployment according to corporate principles. Should further counselling or training be inappropriate and the Train Operator refuses voluntarily to accept the possibility of suitable redeployment they will be referred to a disciplinary hearing.

Action plans will be specific and relate to an individual's shortfalls with the objective of improving safety performance. Elements of such plans may include additional unannounced monitoring, additional or ongoing assessments, retraining in identified deficiencies and the adoption of specific SPAD avoidance actions or techniques by the Train Operator.

Improved safety performance by an individual will be recognised. Where there is suitable and sufficient evidence to indicate that the risks have been controlled the additional measures shall cease and the Train Operator informed in writing.

The review process will also consider human factor / behaviour issues where there is reasonable evidence to indicate that this may directly impinge on the safety performance of the Train Operator. These include:

- Involvement in fatalities or suicides;
- Problems identified during training, monitoring and assessment;
- Failure to achieve or regain competence;
- When a Train Operator is under Occupational Health, or counselling;
- Recklessness;
- An indication of significant change in personality.

Where it appears that a Train Operator has a problem which could impact upon operational safety the Train Operator will be interviewed to ascertain the extent of the problem, ascertain any underlying causes and offer support, reassurance or counselling, if appropriate.

Unless there is potential for significant risk to system safety, a Train Operator would not normally receive additional monitoring as a direct result of the human factor issues outlined above.

Records relating to the review process will be kept for the duration of the Train Operator's employment with London Underground and for a minimum period of 10 years after the Train Operators contract of employment has been terminated (unless it has been forwarded to another Company to which the individual has transferred).

The additional monitoring and support records will be made available upon request to other Companies seeking to employ the Train Operator on transfer or re-engagement under contractual conditions (hiring of Train Operators).

The records of a train driver who transfers to LU from another Train Company will be reviewed and suitable monitoring and support provided if appropriate.

Details of all programmed and actual action taken to address deficiencies in a Train Operator's safety performance will be subject to periodic monitoring and review to ensure corrective action has been conducted by the programmed dates and has been effective in addressing the underlying causes of the problem.

5. Definitions

5.1 Signal

A visual display device, which conveys instructions or provides prior warning of instructions regarding the driver's authority to proceed.

5.2 Stop Signal

A signal capable of displaying a stop aspect or indication. Additionally, for the purpose of this document, it includes:

- Stop Boards or Indicators;
- Limit of Shunt Indicators;
- Position Light and Shunting Signals where the normal aspect means "stop" and (where applicable) the movement is in the direction for which the signal can be cleared;
- Possession Limit Boards;
- Marker Boards at the entrance to or exit from a worksite within a possession;
- Stop indications given by Handsignallers.
- Illuminated Rail Gap Indicator

5.3 Signal Passed at Danger (SPAD)

That term used to describe an incident when any part of the train has passed a stop signal at danger.

5.4 Multi-SPAD Signal

A signal that has been passed at danger more than once during the preceding five years.

5.5 SPAD Category

Categories are allocated to the cause of a signal being passed at danger, these categories are published in the [LU glossary of Terms S1622](#).



Network Improvement

SPAD definition on the Victoria line

Appendix to standard G1038 - Victoria line Signal Passed at Danger (SPaD) definition for operating in Restricted or Protected Manual

This will be where the train is *operated in Restricted or Protected Manual*, and

- A driver passes any aspect signal at danger without authority, or
- A driver passes any block marker board (BMB) without authority, or
- A driver passes any stop signal described in standard G1038

Note

Any incident whereby a train only exceeds the permitted Target Speed in Protected Manual (PM) is not classified as a SPaD.