Primary Cause Incident Factors Guide

Version 1

This document is issued by:

RSSB,
Block 2 Angel Square,
1 Torrens Street
London EC1V 1NY

closecall.enquiry@rssb.co.uk

1 Introduction

This guide gives an explanation behind each Primary Cause Incident Factor heading, and provides some examples of the types of causal factors that may result in a Close Call Event. It may be useful to have a copy of this to hand when creating a close call record.

1.1 Primary Cause Incident Factors

1   Communications

This is concerned with how we relay information to each other in the context of safety critical information. Typically this includes people not communicating information at all or not reaching a clear understanding when they are communicating.

Sub-Categories

1.1   Failure to apply communications protocols to reach a clear understanding

1.2   Misinterpretation of communications

1.3   Inappropriate volume of communications

1.4   Inappropriate communication method

1.5   Inaccurate or missing information communicated

1.6   Inadequate handovers

2   Practices and Processes

This refers to the rules, standards, processes and methods of working which guide and structure how certain activities are undertaken on the railway. It includes the operational rules in the Rule Book and also technical standards which dictate how activities should be undertaken. It also includes the safe systems of work that are set up to protect people in safety critical and other railway environments. It is concerned with finding out primarily why the work practice or process followed has not been in accordance with the accepted or authorised way of working.

Sub-Categories

2.1   Availability
   - Not available/in existence

2.2   Applicability
   - Difficult to follow
   - Impractical/not appropriate
   - Not comprehensive
   - Inaccurate

2.3   Planning work processes

- Based on inaccurate information
- Based on inappropriate job knowledge
- Lack of geographical knowledge
- Inappropriate resource allocation

2.4   Delivery
- Poor task assignment
- Inadequate resources
- Inadequate opportunity for rest breaks

3.   Information

Information is used to support an activity. Railway examples include: the information track workers receive about the hazards on the track and their safe system of work, train running information, timetable simplifiers, late notices, special train notices, weekly/periodic operating notices, pre-job information, electrification/isolation diagrams and signage. It also includes information about changes to technical and operational standards.

Sub-Categories

3.1   Information content

- Inaccurate
- Not available
- Out of date
- Not comprehensive
- Not relevant
- Contradictory

3.2   Information presentation

- Over complex
- Inappropriately structured
- Lacks clarity
- Appropriateness of format

3.3   In sufficient dissemination of information

- Unaware of briefing responsibilities
- No process for undertaking staff briefings
- Time constraints

4.   Workload

Workload is about understanding the demand created by particular activities.

If the workload is in excess of acceptable limits it will be stressful, fatiguing, de-motivating for the individual which will make their performance slower and less accurate. It will also affect an individual's ability to maintain awareness of what is going on around them (situational awareness).

Reducing workload is not always the solution as this too can affect performance. Reduced workload or workload involving simple, repetitive tasks over extended periods can increase boredom and increase difficulty for individual's to maintain vigilance.

Sub-Categories

4.1   Task – the number and combinations of tasks they have to complete

4.2   Context – how and where they have to complete them and the urgency or accuracy necessary to ensure safety and organisational performance targets are met

4.3   Individual – their skill, experience and perception of their work

4.4   Conflicting activities that require excessive demands on attention (i.e. trying to monitor two physically separate parts of a signalling panel)

4.5   Time pressure

4.6   Productivity pressure

4.7   Emergency/non-routine circumstances

4.8   Poor job design

4.9   Inappropriate resource allocation

4.10   Additional activities over and above the norm

5.   Equipment

This refers to any equipment that is used to undertake or support an activity and can be a factor if it is not being used as intended, if it is faulty, if its design is not compatible with its use or if the layout is not in the order in which it is used. Different types of incident involve different types of equipment.

Sub-Categories

5.1   Design

- Equipment not compatible for its intended use
- Important displays/information clearly visible and provide information at the right time
- Inadequate alarm arrangements
- No correction of known flaws
- Arrangements for ensuring competence in use of
- Positioning and layout

5.2   Use/operation

- Deliberate misuse
- Inadequate arrangements for ensuring competence in use of equipment
- Right equipment not available
- Equipment unreliable

5.3   Maintenance

- Inadequate maintenance
- Inappropriate maintenance specification
- Faults incorrectly reported

5.4   Storage of equipment and material
- poor housekeeping
- poor security arrangements
- poor storage arrangements

6.   Knowledge, skills and experience

Knowledge, skills and experience can be a factor in an incident if the individual(s) involved did not have the appropriate knowledge to perform safely or if they were not familiar with the circumstances in which they found themselves.

Sub-Categories

6.1   Training

- Relevant
- Comprehensive (i.e. did the training cover both the knowledge and the skills need to perform that activity, where there sufficient opportunities for practice)
- Accurate

6.2   Assessment

- Sufficiently frequent
- Adequate (i.e. did it include assessment of both knowledge and application)
- Appropriateness of support and follow up arrangements

6.3   Experience

- Relevant (did the operator's work experiences match the task being performed at the time of the incident)
- Inexperience

7.   Supervision and Management

Supervisors and managers can be an underlying reason for an accident or close call because of the decisions they make about resources, budgets, work allocation and planning. They can also have a more direct impact through the example they set and the monitoring and assessment processes they have responsibilities for which are aimed and detecting and managing errors or the potential for errors.

This factor covers a wide range of supervision and management activities from directly supervising worksites to the way in which people are managed. It includes how we manage our contractors too.

Sub-Categories

7.1   Monitoring and correction

- Failure to correct errors/inappropriate behaviour
- Failure to undertake safety checks
- Inadequate feedback systems
- Inadequate escalation processes
- Failure to correct known problems
- Failure to initiate corrective action

7.2   Resource Management

- Inappropriate cost cutting

- Inadequate budget
- Inadequate resources (people and equipment)
- Inappropriate resource allocation

7.3   People Management

- Not accessible to staff
- Inappropriate performance management processes
- Inadequate mentoring arrangements
- Inappropriate behaviours and attitudes (of supervisor/managers)
- Failure to provide job related/professional guidance/support

7.4   Inadequate supervisory/management skills

- Over-worked supervisor manager
- Inadequately trainer supervisor/manager
- Perceived lack of authority

8.   Work Environment

The working environment contains environmental stressors such as lighting levels, noise, temperature and vibrations. These can lead to feelings of discomfort or act as distractions, impacting on an individual's performance.

8.1   Weather conditions

8.2   Noise

8.3   Lighting

8.4   Temperature

8.5   Vibrations

8.6   Space

9.   Personal

This factor refers to a collection or influences arising from the individual themselves. They are concerned with fatigue, physical and mental well-being and attitudes.

Sub-Categories

9.1   Work related fatigue
- Poor shift and roster design
- Excessive working hours
- Inadequate rest breaks during work
- Excessive travelling time to and from work

9.2   Home-life related fatigue

9.3   Physical well being
- Influenced by drugs or alcohol
- Ill health
- Influenced by medication
- Failure to comply with medical standards

9.4   State of attention

- Pre-occupation/distraction
- Complacency
- Mind set
- Expectation
- Confused
- Stress

9.5   Work-related attitudes
- Low morale
- Confidence
- Propensity for risk taking
- Over accommodating

10.   Teamwork

This is concerned with how we work together and coordinate to achieve safe performance. There are certain factors that will influence the likelihood of team errors including the number of people in the team, team structure, team stability and team leadership

10.1   Inappropriate number of people in team

10.2   Lack of team's "shared" understanding

10.3   Failure to notice or respond to another's errors

10.4   Inappropriately influencing the actions or decisions others

10.5   Inadequate team cooperation

10.6   Inappropriate level of team trust (i.e. too much/too little)

10.7   Ineffective delegation of team duties and responsibilities

10.8   Appropriateness of communications between different levels/parts of the organisation