Safeworking

Lesson Plan and WorkBook

(Generic Version)

Version 1

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IMPORTANT NOTICE

This booklet is one of a series of generic training and assessment templates developed by the Association of Tourist & Heritage Rail Australia Inc (ATHRA) as guides for heritage railway operators seeking to develop or upgrade their local training and assessment resources.

This booklet and others in the series are not intended to be training resources in their own right but rather to be suitably customised, embellished and adapted by railway operators to match the specific context of their own railway, e.g. types of locomotives, rollingstock and associated equipment, the track layout and infrastructure, the local standard procedures and rules, the safety management and safeworking systems, the railway organisational structure, and the roles and functions of personnel in the railway, etc.

Railway operators seeking to use this booklet and others in the series should initially refer to the ***ATHRA Customisation Guidelines Booklet*** which provides important information on how the generic templates should be used.

CONTENTS

1 HOW TO USE THIS WORKBOOK

This section of the workbook provides an overview of the contents of your workbook and how you should use it for your lessons.

The workbook is intended to provide you with a systematic approach to the learning of the skills, knowledge and understanding you need to fulfil your role and responsibilities in the safeworking and general safety of your railway or tramway. A mentor who is already a qualified and highly experienced in safeworking and general safety requirements has been appointed by your railway or tramway to assist you in this learning process.

The first part of the booklet includes a simple summary of the structure and contents and the learning activities contained in the booklet for the development of what you need to know and what you need to be able to do. It describes the mutual roles of you and your mentor and summarises other publications issued by your railway or tramway that you need to use, such as safety management system, safeworking rules, rail safety requirements, operating and service manuals, checklists, standard procedures, timetables, route maps, etc.

There are six topic areas covered by the booklet. Each topic section outlines the theory and practical for a number of listed sub-topics. The outline gives a basic framework of what you need to know and be able to do in the topic area concerned. However, you will need to ***build your knowledge*** further by having discussions with your mentor and by reading the relevant sections of the publications issued by your railway or tramway to rail personnel.

Each topic section also contains space for you to write your own notes on the various sub-topics based on discussions with your mentor and your own experiences during training and guided practice.

2 LIST OF REFERENCE MATERIAL

The following is a list of key reference material which will be available to you during the course of your learning activities for the lesson:

- Your railway's or tramway's various job descriptions, describing roles and responsibilities
- Railway's or Tramway's Standard Operating Procedures (SOPs)
- Safety management system
- Rail safety requirements and practices
- Equipment manuals and handbooks
- Pre-operational checklists
- Railway's or Tramway's Rule book and General Instructions, including:
  - Safeworking forms
  - Special Notices / Train or Tram Notices
  - Route maps
  - Timetables
  - Yard and shed /depot diagrams
  - etc.

3 OBJECTIVES OF THE LESSON PLAN

This Lesson Plan aims to provide a program of learning that will enable the learner to develop the theory (i.e. what you need to know and understand) and the practical requirements (i.e. what you need to be able to do) in a number of topic areas ...

- The role and responsibilities of railway or tramway personnel for safeworking and general safety on the railway or tramway,
- Safety issues and danger zones,
- Train or tram movements,
- Fixed signals, point stand indicators, check points, track side signs and level crossings (where applicable),
- Abnormal situations, and
- Safety and effective communication

Your **mentor** will work with you in the following ways:

- Help you to develop the required understanding and skills through interactive discussions and explanations,
- Demonstrate required tasks and equipment functions,
- Assist you to obtain, read and interpret your railway's documents and manuals as well as applicable regulatory requirements,
- Observe and comment on your practice of the required skills in real and simulated situations, and
- Periodically check of what you have learnt (i.e. your knowledge and understanding and what you are able to do).

At all times, if you are in doubt or need to clarify an issue, check with your mentor or other suitably qualified and experienced personnel on your railway or tramway.

4 SAFEWORKING AND GENERAL SAFETY DUTIES AND RESPONSIBILITIES

4.1 SAFEWORKING AND GENERAL SAFETY DUTIES

Theory

Safeworking Systems

All railways or tramways follow a system of safeworking. This is a system of rules and equipment used to prevent conflict between trains/trams and trackworkers. In safeworking systems used on tourist and heritage railway lines, the track is divided into sections[1] within which only one train is permitted. The end points of these sections may be a place where trains may cross or pass (such as a station or crossing loop), a place where trains leave the main line (a siding) or just a specially marked location (a block point). Permission for a train to enter a section is referred to as an 'Authority'. Each form of safeworking goes about the granting of these Authorities to trains/trams in a different way.

Various types of safeworking systems used in railways and tramways are described more fully in Section 5.1 of this lesson plan and workbook. For most heritage railways, the 'Staff and Ticket Safeworking System' or 'Train Order System' is used.

You must be thoroughly familiar with the safeworking system used on your railway or tramway and be able to apply the system correctly when operating a train.

Where applicable, skill requirements related to safe operation of trains/trams may include….

- Procedures related to level crossings (in the case of trains)
- Safe practices when shunting
- Securing of trains/trams
- Procedures for crossing or passing of trains

[1] Note that in signalling systems on railways, only one train at a time is permitted into a block and there may be any number of blocks in a section dependant upon the number of intermediate signals, whereas in S&T and TOW the block and section are the same.

- Interpreting and applying indications on fixed signals, point stand indicators, block points and trackside signs
- Giving and interpreting hand signals
- Interpreting and applying train or tram signals
- Interpreting and applying audible signals
- Train or tram failure procedures
- Emergency procedures

General safety

General safety duties involve the day-to-day implementation of safe practices that help people (1) protect their own lives; (2) protect the lives of others and the public, and (3) prevent accidents.

General safety duties typically include:

- situational awareness
- occupational health and safety
- fitness for duty
- fatigue management
- first aid
- following rules for riding on locomotives or rollingstock (in the case of railways)
- reporting of incidents
- reporting of defects
- safety awareness in hazardous areas
- points, points levers and points indicators
- fire extinguishers (location, procedures for use)
- emergency procedures for a train or tram
- evacuation procedures for a train or tram

Communication and safety

A key duty essential for both safeworking and general safety is to communicate effectively. This includes all forms of communication including:

- **Verbal** communication (giving and receiving instructions, making announcements, answering queries, using radio or intercom equipment, etc.)
- **Listening and interpreting** (instructions, passengers' questions and concerns, audible signals, whistles, detonators, etc.)
- **Reading and interpreting documents** (written instructions, standard procedures, safeworking rules, timetables, notices, etc.)
- **Writing** (completing paperwork, completing incident reports, completing a train log, filling in forms, etc.)
- **Non-verbal** communication (using and interpreting hand signals, flags, lights, whistles, buzzers, gongs, detonators, etc.)
- **Reading and interpreting signs** (speed signs, access signs, warning signs, rail safety signs, etc.)

> ***Practical***
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> Discuss with your mentor your duties in terms of the safeworking system and general safety requirements for your railway or tramway. Learn and demonstrate to your mentor how to interpret and exercise your safeworking and general safety duties when carrying out your functions in the operation of your railway or tramway.

4.2 STATUTORY RESPONSIBILITIES INCLUDING RAIL SAFETY AND SAFEWORKING REQUIREMENTS AND REGULATIONS

Your role in your railway or tramway is to work collaboratively with other persons to maintain the safe, effective and efficient operation of trains/trams on your railway or tramway. All persons involved with railway or tramway operations must therefore be very familiar with the rail safety requirements related to the operation of trains/trams on their railway or tramway and all pertinent safeworking rules and requirements. They must also have a good working knowledge of the basic regulatory

requirements for the operation of railways or tramways. You need to make sure you are familiar with the railway or tramway documents and other documents that describe your statutory responsibilities and that you understand their contents and the implications for your work on your railway or tramway.

A particularly important responsibility is to be aware of the hazards involved in working in a railway or tramway environment and following the railway or tramway operator's strategies for minimising or eliminating the risks involved. Examples of hazards that may exist on railways and tramways (dependent upon the specific job role) include:

- Falling from heights
- Working in confined spaces
- Working under wires
- Chemicals
- Fire irons
- Hot surfaces
- Broken hand railings
- Scalding/burning
- Moving work platform
- Oil spills on floors
- Dehydration and fatigue
- Noise
- Flashbacks
- Working with electrical systems

Hazard management strategies may include:

- Taking required precautions when using oil as the locomotive fuel (in the case of railways),
- Ensuring public safety (e.g. checking when the public is in the vicinity of loco before using injectors, blowing down, cleaning fires, etc., or checking that all passengers have safely alighted before closing the doors of a tram),
- Using personal protective equipment or PPE,
- Using fire extinguishers and water hoses to control fire emergencies, or
- Following the railway's or tramway's established risk management procedures.

Practical

In conjunction with your mentor, make sure you have a copy of the relevant documents and understand the requirements and responsibilities described in them. If in doubt on any aspect of your statutory responsibilities, ask your mentor to clarify them with you and, if necessary, demonstrate how these responsibilities need to be fulfilled in practice. Demonstrate to your mentor your understanding of your responsibilities and how these are applied in your role within the railway or tramway.

4.3 SAFETY AND EMERGENCY PROCEDURES OF THE RAIL OPERATOR, INCLUDING RECORD KEEPING AND THE REPORTING OF DEFECTS AND INCIDENTS

Theory

Make sure you have a copy of safety and emergency procedures of the operator of your railway or tramway that apply to your functions and duties. You should read these procedures and make sure that you are thoroughly familiar with them and can apply them when performing your work tasks on the railway or tramway. It is important that you not only can follow these procedures but also understand their significance and the reasons why following them is so important. These procedures will include record keeping and the required action to be taken in the event of an equipment defect or a safety incident.

Emergencies and Emergency Management Plans

Ensure you are familiar with your *Railway's Emergency Management Plan* and how it is applied in conjunction with the Emergency Services in your area. In the case of an emergency, confirm who is initially in charge of the site and when and how this responsibility changes to the Emergency Services and the Senior Combatant Agency at the site.

You need to be familiar with your responsibilities in the case of emergency and the requirement not to undertake any activity that is likely to destroy any evidence unless it is essential to do so in the treating of injured persons.

The incident site is controlled by the Senior Combatant Agency on site until such time as it is cleared and declared a wreck, then the Railway becomes responsible for the clearing of the track.

Prior to allowing work to commence on site, the Railway must ensure that it has undertaken an investigation and ensured that all necessary evidence has been obtained.

Note: Emergency Services terminology varies from State to State, hence some terms will need to be changed to reflect the terminology of the State in which the training materials to be used. In all States, the Senior Combatant Agency is the Police except where a *Dangerous Goods Spill* occurs in which case the Emergency Services will take charge.

Notifiable Occurrences

Rail Safety Regulations require that all incidents which occur on a railway are deemed as either Category A or B. A category A incident must be reported by the railway to the Rail Safety Regulator immediately or at least within 2 hours of the incident by the person nominated by the railway concerned. A written notification is required on the appropriate form within 72 hours. Incidents deemed as Category B are to be reported within 48 hours on the appropriate form by the designated person from the railway. Each railway will have its own procedures for handling of the investigation and reporting or emergencies and all workers need to be aware of these requirements. In some instances, the Rail Safety Regulator may advise that an investigation will be conducted by that organisation and therefore nothing is permitted to be shifted until such time as the investigation has been undertaken. If the incident occurs on a railway operated by another organisation, the railway concerned will have an operating agreement detailing the actions to be taken. ***(Note:*** *In some States, the time frame for reporting of Category B incidences may vary and customised training materials based on the generic Lesson Plans will need to reflect the requirements of the State in which they are to be used.)*

Danger Zones

During an emergency situation, personnel and the public need to be aware of the danger zones on a railway or tramway. A danger zone on a railway is *'every where within 3 metres horizontal from the nearest rail and any distance above or below, unless a safe place exists or has been created' (See Section 5.7 also)*.

Practical

In conjunction with your mentor, make sure you have a copy of the relevant safety and emergency procedures and understand how they must be applied during your work on the railway or tramway. If in doubt on any aspect of the procedures, ask your mentor to clarify them with you and if necessary, demonstrate to you how the various procedures should be carried out. In turn, you should learn how to apply these procedures yourself progressively through your training -- developing your expertise through guided practice, as instructed by your mentor.

Discuss with your mentor the *Emergency Management Plan* of your railway and the policy and procedures related to *Notifiable Occurrences* and *Danger Zones.*

5 SAFETY AND DANGER ZONES

5.1 SAFEWORKING SYSTEM AND RULES

Theory

All railways follow a system of **safeworking**, -- i.e. a system of rules and equipment used to prevent conflict between trains / trams and track workers.

In safeworking systems used on tourist and heritage railway lines, the track is divided into sections within which only one train is permitted. The end points of these sections may be a place where trains may pass (such as a station or crossing loop), a place where trains leave the main line (a siding) or just a specially marked location (a block point). Permission for a train to enter a section is referred to as an Authority. Each form of safeworking goes about the granting of these Authorities to train and track movements in a different way.

The two most common safeworking systems used by tourist and heritage railways are: (1) Staff and Ticket (S&T) and (2) Train Order Working (TOW

- **STAFF AND TICKET (S&T)** -- S&T is a token system. It comprises the issue of a Proceed Authority in the form of a staff, or where there is to be a following train in the same direction, a ticket. The system generally allows for only one train to be in the section at a time. However, on sections where following movements are authorised within the section, tickets are kept in the staff box at each end of the section. The staff box can only be unlocked by the train staff for the particular section. The safety of the system depends upon the correct handling of the staff, and where required, the tickets. The Authority to enter the section is the staff or ticket. Each train entering the section is required to be in possession of the staff or ticket for that section and when provided, comply with signal indications. When trains are proceeding on a ticket, the train crew is required to sight the staff for the relevant section prior to departure. The setting and verification of points is undertaken by the train crews themselves or by workers at attended locations.

- **TRAIN ORDER WORKING (TOW) --** TOW is a communications-based system and comprises the issue of a Proceed Authority in the form of a Train Authority, which authorises a train to move between specified points and is issued by train control to the train crew or to other qualified workers who arrange delivery to the train crew. The train crew is required to comply with the instructions in

the train order together with any additional signal indications. The route over which a train is authorised to move by a Train Authority is verified as clear either through manual procedures or with computer assistance. The setting and verification of points is undertaken by the train crew themselves at unattended locations or by workers at attended locations and are required to comply with instructions contained with the train order or by rules which include the requirements for crossing or passing of trains.

You must be thoroughly familiar with the safeworking system used on your railway or tramway and be able to apply the rules and requirements of the safeworking system correctly when fulfilling your role on the railway or tramway.

Practical

Discuss with your mentor the safeworking system used on your railway or tramway.

Learn and demonstrate to your mentor how to interpret and apply the operator's safeworking system when carrying out your role on the railway or tramway.

5.2 FITNESS FOR DUTY

Theory

Persons carrying out safety critical work on a railway or tramway must be fit for duty. This includes such rail occupations as train driver, fireman, second person, guard, signalmen, track workers, etc. Railway or tramway operators will have strict definitions of 'fitness for duty'. Safety management systems will ensure that it is prohibited for persons in designated occupations to report for duty or remain on duty if:

- They have a blood alcohol level greater than zero,
- They are under the influence of any other drug that impairs ability or interferes with a person's ability to perform their duties safely, regardless of whether the drug is prescribed or an over the counter medication,

- They are fatigued, or
- They are medically unfit or unwell.

By law persons that are 'unfit for duty' under any of these classifications must **NOT** report for duty or remain on duty. Railway and tramway operators will also require that persons in any capacity on their railway or tramway must not give up duty to a person where there is any suspicion that such a person has a blood alcohol level that exceeds zero or may be impaired by a drug. In such circumstances, the designated senior personnel must be advised immediately. It is important that you are familiar with your railway's or tramway's policies and requirements concerning *'fitness for duty'*.

> ***Practical***
>
> Discuss with your mentor the policies and requirements concerning 'fitness for duty' in your railway or tramway. Learn and demonstrate to your mentor how to interpret and apply the rail operator's 'fitness for duty' policies and requirements.

5.3 FATIGUE MANAGEMENT

Theory

Research has demonstrated that people's performance when they are working is seriously impaired when they are fatigued. A number of factors have been found to contribute to fatigue. They include:

- **work demands** such as: workload, work duration, shift pattern, time of day, frequency and duration of breaks and the type of work (e.g. .working in isolation, repetitive tasks and boring, monotonous or under-challenging tasks),
- **organisational factors** such as: work environment (including temperature, ventilation, continual rhythmic vibration from equipment), payment system, trip and work scheduling, and the predictability of work,

- **lifestyle factors** such as: sleep patterns, alcohol and drug use, quantity and timing of food and drink, and opportunities for relaxation with family and friends,
- working **multiple jobs**, and
- **personal or biological factors** such as: state of mental and/or physical health, inadequate sleep, sleep disorders, emotional stress, family responsibilities, relationship difficulties, or inadequate competence to complete work tasks.

Your railway or tramway operator will have guidance on how to recognise the signs of fatigue and what to do if you recognise that either yourself or fellow rail worker are showing signs of fatigue. All workers need to be aware of:

- the risks and hazards created by fatigue in the workplace,
- how fatigue affects workplace performance,
- how fatigue contributes to workplace accidents,
- ways of recognising the signs of fatigue,
- what you should do if you show signs of fatigue, and
- the railway's fatigue management policy.

REMEMBER -- The only cure for fatigue is sleep!

Practical

Discuss with your mentor the policies and requirements concerning fatigue management in your railway or tramway and the ways in which you can control the factors that may contribute to fatigue.

Learn and demonstrate to your mentor through role plays and simulations how you would recognise the signs of fatigue and the action you would take if you found you or others were fatigued.

5.4 RIDING ON LOCOMOTIVES AND ROLLINGSTOCK

Theory

Cabs of locomotives and moving rollingtock are hazardous areas involving many safety risks. In heritage railways, rail operators therefore have strict rules as to who can ride in the cabs of locomotives. In most railways, persons are not permitted to ride on a locomotive or rollingstock unless necessary in the execution of their duty or are specially authorised by a designated railway officer.

Practical

Discuss with your mentor the rules on your railway concerning riding on locomotives and/or rollingstock.

Learn and demonstrate to your mentor your understanding of these rules and how they apply to your role in the railway.

5.5 REPORTING OF INCIDENTS

Theory

All safety incidents must be reported as per the safety management system and standard procedures of the railway or tramway operator concerned and the related regulatory requirements.

Category A incidents are serious matters that include:

- serious injury,
- death,
- derailments,
- collisions, including at level crossings,
- fires,
- explosions, and
- terrorism or sabotage.

Category B incidents are less serious and include:

- derailments on non-running lines, such as in the yard,
- near misses at level crossings,
- signals passed at danger,
- rolling stock runaway,
- communications system not working,
- slips, trips and falls,
- not following safe working rules or procedures,
- alleged assault on railway property causing injury,
- suspected suicide attempt,
- rail safety workers testing positive to drugs or alcohol,
- vandalism, and
- trespass.

Category A incidents must be reported to the Rail Safety Regulator within 2 hours verbally and in writing within 72 hours. Category B incidents must be reported within 72 hours.

All personnel on a railway or tramway will undergo an induction program that ensures that they fully understand their responsibilities in the possible event of a safety incident and the way an incident should be reported.

Practical

Discuss with your mentor the requirements of your railway/tramway and the rail regulator concerning the reporting of safety incidents.

Learn and demonstrate to your mentor you're the correct process on your railway or tramway for reporting a safety incident through a series of role plays and simulated incidents.

5.6 REPORTING OF DEFECTS

Theory

Where defects and deficiencies are found in the course of your work on the railway, you will be required to take appropriate action consistent with your duties and responsibilities and the railway's or tramway's standard operating procedures and regulatory requirements. Dependent on your job role, this could include

- **reporting** the defect or deficiency
- **recording** the defect or deficiency
- **rectifying t**he defect or deficiency if possible
- **isolating and/or tagging** the defective or deficient equipment or component if required

At the very least, you must report an identified defect or deficiency as per your railway or tramway operator's standard operating procedures -- usually as soon as possible.

Different railway or tramway operators will have their own policies and standard operating procedures as to what action should be taken by railway or tramway personnel (employees and volunteers) when they discover defects and deficiencies in infrastructure, locomotives, vehicles, trams, equipment or their components.

Personnel on the railway or tramway therefore need to understand and be able to implement their own railway's or tramway's policies and standard operating procedures concerning identified defects and deficiencies.

Practical

Under the supervision of your mentor, observe and practice how to take appropriate action in the event of a number of simulated typical defects or deficiencies relevant to your job role. Learn and demonstrate to your mentor what action you would take if the various simulated defects or deficiencies were identified in the course of your employee or volunteer job functions.

5.7 HAZARDOUS AREAS

Theory

There are many hazardous areas and danger zones on a railway or tramway that pose safety risks for personnel, passengers and the general public. Due care must be taken in these areas. Personnel must be especially vigilant and follow required procedures when working in these areas and give clear instructions to passengers and the general public concerning access to these areas the precautions that must be taken to control the risks involved. Some of these hazardous areas include:

Danger Zones

A danger zone on a railway is *'every where within 3 metres horizontal from the nearest rail and any distance above or below, unless a safe place exists or has been created'*.

Steam Locomotives

Steam locomotives are dangerous environments involving moving parts, steam, open cab doors, hot pipes and surfaces, smoke and radiant heat.

Diesel Locomotives

Diesel locomotives are dangerous environments involving moving parts, locomotive steps, protruding and swinging bogies, high voltage, hot pipes, and low doorways.

Moving trains and trams

Moving trains and trams present a range of hazards both to persons on board and persons in the vicinity of the train or tram. There are special risks for personnel involved in shunting operations.

Edges of platforms

Passengers and personnel have to be especially careful near the edge of platforms in case the accidentally fall onto the track or are hit by a train entering or moving through the platform.

Track, sheds, depots and yards

- Only authorised persons are allowed on the track and in sheds, depots and yards

- Those that are authorised need to follow the standard safety procedures and safeworking rules when in the vicinity of the track, sheds, depots and yards including:
  - Be aware of train / tram movements at all times
  - If you aren't required to work near the track, stay away from it,
  - Stay in clear view of trains / trams at all times
  - Cross the track at right angles,
  - Never step on the rail head
  - Wear/use any required Personal Protective Equipment (PPE)

Level and pedestrian crossings (on railways)

Level crossings are notorious hazardous areas on railways. Even where the crossing is protected by lights, bells and possibly boom gates, personnel and the general public must be advised to always check for the possible approach of a train in case the crossing protection equipment is malfunctioning.

Guards and other qualified employees usually also have special responsibilities for flagging defective crossings identified by the driver. Note that not all trains run with a GB on the rear and hence this is not always possible. Any level crossing defect must be reported to Train Control.

Practical

Discuss with your mentor the hazardous areas of your railway or tramway. In particular, discuss the danger zones on your railway or tramway as per the rail operator's safety management plan.

Learn and demonstrate to your mentor your understanding of the precautions and risk management procedures you should follow when working in or entering any of the hazardous areas and danger zones on your railway or tramway.

5.8 POINTS, POINTS LEVERS AND POINT STAND INDICATORS

Theory

Key pieces of safeworking equipment on a railway or tramway are its points, points levers and points indicators. Railways have strict guidelines and procedures for the care, maintenance and use of the points equipment. Only authorised railway or tramway personnel are permitted to operate the points equipment and they must carry out their functions in strict compliance with the railway's or tramway's safeworking system and standard operating procedures. It is an important requirement that all points and derails are left **locked** after use. Damaged or non-functioning points equipment should be reported immediately to a senior officer on the railway or tramway concerned.

Practical

Discuss with your mentor the location, purpose and functions of the points, points levers and points indicators on your railway or tramway and the personnel authorised to operate the points equipment. Demonstrate your understanding of the importance of points equipment as a critical element in the safeworking of the railway or tramway.

5.9 GENERAL SAFETY AND DANGER ZONES - LEARNER'S NOTES

Insert your own notes here

6 TRAIN AND TRAM MOVEMENTS

6.1 INTERPRETING AND APPLYING AUTHORITY TO MOVE A TRAIN OR TRAM

Theory

Prior to moving a train or tram, drivers must obtain authority to move the train or tram as per the railway or tramway operator's safeworking requirements and operational procedures. For heritage trains, this authority is usually approval from the guard to move within a yard where no formal proceed authority is required whilst within yard limits.

This is critical for the safety of the railway or tramway, personnel and passengers.

Practical

Discuss with your mentor the standard operating procedures for obtaining 'authority' to move a train or tram within the safety management system of the railway or tramway.

Discuss the reasons and importance for having to obtain 'authority' to move a locomotive, train or tram.

Learn and demonstrate to your mentor how to obtain and apply 'authority' to move a train or tram.

6.2 INTERPRETING AND APPLYING A 'CANCELLATION OF AUTHORITY'

Theory

If for some reason the operations of a train have been cancelled and 'Authority' to move a train or tram has already been issued, a driver must obtain a 'Cancellation of authority' as per the railway or tramway operator's safeworking requirements and operational procedures.

This is critical for the safety of the railway or tramway, personnel and passengers.

Practical

Discuss with your mentor the standard operating procedures for obtaining a ‘Cancellation of Authority’ and its purpose within the safety management system of the railway or tramway. Learn and demonstrate to your mentor how to interpret a ‘Cancellation of Authority’ and its application to your job role on the railway or tramway.

6.3 INTERPRETING AND APPLYING AN ‘AUTHORITY TO BE IN A SECTION’

Theory

In the case of tourist and heritage railways, an ‘authority to be in a section’ will usually be either train authority or the staff or ticket. For network main running lines, a host of other safe working rules and regulations could apply.

An ‘authority to be in a section’ allows a train crew to enter the designated section of the line. While in the section, the train crew must abide by the safeworking rules of the railway operator concerned. The authority or train order ensures that there can be only one train in the section while the authority or order is in effect. Train crew need to be aware of the procedures and responsibilities associated with the ‘authority to be in a section’ on tourist and heritage railway lines and/or (where applicable) network main running lines.

An understanding of ‘authority to be in a section’ for the railway concerned is critical for the safety of the railway, personnel and passengers.

Practical

Discuss with your mentor the standard operating procedures for obtaining a ‘Train authority to be in a section’ and its purpose within the safety management system and safeworking system of the railway concerned. Learn and demonstrate to your mentor how to interpret a ‘Track Train authority to be in a section’ and its application to your job role on the railway.

6.4 FOLLOWING CORRECT PROCEDURES WHEN THERE IS A TRAIN OR TRAM BROKEN DOWN OR STALLED IN A SECTION

Theory

It is very important that a train or tram driver and other train or tram crew understand the standard operating procedures that must be followed when there is a train or tram broken down or stalled in a section – as per the railway or tramway operator's safety management plan.

This is critical for the safety of the railway or tramway, personnel and passengers.

> ***Practical***
>
> Discuss with your mentor the standard operating procedures that must be followed when there is a train or tram broken down or stalled in a section. Learn and demonstrate to your mentor the standard operating procedures that must be followed when there is a train or tram broken down or stalled in a section and their application to your job role on the railway or tramway.

6.5 FOLLOWING CORRECT PROCEDURES WHEN THERE IS WORK ON TRACK

Theory

A 'Track work authority' allows track work on running lines between train movements. Protection Officers manage the approach of rail traffic to worksites. Movements may be controlled using hand signallers or other means.

Train drivers need to be aware of the safeworking rules that need to be followed when operating in the vicinity of worksites on the track. In conjunction with the fireman or second person and the guard, they must remain vigilant and respond correctly to warning devices and hand signals from protection officers.

Note that the *'authority for track workers to be in a section when a train is present'* will vary from railway to railway and reference to protection officers does not apply, at this stage, across Australia. It is very important that all railway and tramway personnel need to be aware of the access rules for track workers for the railway or tramway concerned.

Practical

Discuss with your supervisor the safeworking requirements for your railway or tramway for operating a train or tram in a section where there are worksites on the track, including the procedures for the protection of the worksite. Learn and demonstrate to your mentor the standard operating procedures and safeworking requirements for when there are worksites on track and their application to your job role on the railway or tramway. This may involve the mentor posing a series of simulated situations or case studies.

6.6 INTERPRETING AND APPLYING SPEED LIMITS

Theory

The maximum speed for a railway or tramway is normally published in its working timetable or similar document. This is “known as Normal Speed. Normal speed is the maximum speed permitted for that section of line or class of rollingstock, e.g. In South Australia, a 930 class loco is permitted 95 Kph max speed whilst a 500 class loco is only permitted 65 Kph etc.

Where there are curves on a railway, curve speed boards indicate the maximum permissible speed around that curve. Normal speed may be resumed when all of the train has cleared the curve. Curve speed boards are normally placed on the Driver’s left had side at the point on the railway where that speed commences.

Temporary speed restrictions are applied from time to time due to the condition of the track. A” Warning Board” is placed in advance of the restricted track to indicate to the driver the speed at which the movement is enquired to proceed over the affected track. A “Start Speed Restriction Board” is placed 50 metres in advance of the point where the speed restriction is to start and drivers need to ensure their trains do not exceed that speed from the board until clear of the restricted area. A “Clearance Board” is located 50 metres beyond the point of the speed restriction and normal speed may be resumed when the last vehicle of the movement is clear of this board. In The design and placement of boards does vary from railway to railway and you need to become familiar with the boards in use on your railway. In most railways the maximum permitted over the speed restriction is shown on the

Warning Board and Restriction Board but in most cases there is no speed on the resume normal speed board.

In the case of a railway or a tramway, it is critically important that a driver is aware of the location of the various speed boards (including temporary speed restrictions) along a train's or tram's route so that preparations can be made to reduce speed if the train or tram is approaching a section with a lower speed limit.

Practical

Under the supervision of your mentor during a train or tram journey, observe how a driver adjusts the speed of the train or tram to comply with the speed limits indicated by the various speed boards en route.

Discuss with your mentor the location of the various speed boards on the various routes on your railway or tramway and their application to your job role on the railway or tramway.

6.7 INTERPRETING AND APPLYING SAFETY CLEARANCES

Theory

All railways have systems of safety clearances. The purpose of these clearances is to control the risk of a person or vehicle being in too close to of a moving train or tram possibly resulting in an accident. Examples of safety clearances include:

- Persons must not to stand within 3 metres of railway running lines.
- Persons are able to be within 3 metres of a running line but must be wearing high visibility vest and should stand clear on approach of a train or track vehicle
- No road vehicle is to be stopped or parked within 5 metres of a running line.
- No shunter is to position themselves between two vehicles of a moving train.

It is important that you know and understand the safety clearances of your railway or tramway and that you and others abide by them in your day-to-day work on the railway or tramway.

> ***Practical***
>
> Obtain and discuss with your mentor information on the safety clearances in force on your railway or tramway.
>
> Learn and demonstrate to your mentor how to interpret and apply the rail operator's safety clearances when carrying out your role on the railway or tramway.

6.8 FOLLOWING PROCEDURES RELATED TO LEVEL CROSSINGS

Theory

Level crossings pose a critical safety risk on a railway. Drivers, firemen or second persons, and guards all have special responsibilities when approaching and traversing level crossings.

- **Drivers and firemen / second persons** must be particularly vigilant when approaching and traversing crossings and carefully follow the standard operating procedures of the railway concerned. In particularly they must sound the locomotive's whistle horn or bell as they approach and traverse the crossing as well as checking at active level crossings that the lights and bells and possibly boom gates are functioning correctly.

- **Guards** must also be vigilant at level crossings and check that the lights and bells, etc. have correctly deactivated once the train has passed. Guards and other qualified employees usually also have special responsibilities for flagging defective crossings identified by the driver.

  Note that not all trains run with a GB on the rear and hence this is not always possible. Any defect must be reported to Train Control.

Practical

Discuss with your supervisor the procedures related to level crossings. Learn and demonstrate to your mentor the standard operating procedures and related safeworking requirements for level crossings as they apply to your job role on the railway. This may involve the mentor posing a series of simulated situations or case studies.

6.9 SHUNTING

Theory

There are a number of situations in which shunting may occur on a heritage railway or tramway. These include:

- Shunting operations involved in forming a train or tram prior to service,
- Shunting operations at a terminus station involving the running around of the locomotive to the opposite end of the train, and
- Shunting operations in a yard to position rollingstock or trams for examination or maintenance.

In railways, guards are usually responsible for coordinating the shunting operations of their train and work in conjunction with the crew on the locomotive involved. It involves clear communication between guards, drivers, firemen /second persons using hand signals and strict compliance with the applicable procedures and rules. Shunting is a very hazardous activity and it is crucial that all personnel involved closely follow the applicable standard operating procedures and safeworking rules of the railway or tramway concerned.

Practical

Obtain a copy of your railway's or tramway's standard operating procedures and safeworking rules for shunting operations. Discuss them with your mentor. If in doubt on any aspect of these procedures and rules, ask your mentor to clarify them with you and, if necessary, demonstrate to you how these procedures and rules are implemented in practice. Demonstrate to your mentor your understanding of shunting procedures and related safety requirements and how these apply to your role within the railway or tramway.

6.10 SECURING OF TRAINS AND TRAMS

Theory

When trains or trams are stationary for extended periods (e.g. at a station, at a tram stop or terminus, during a locomotive run around, or in a yard, depot or station after service or during a train or tram emergency), it is important that they are properly secured. The securing of trains and trams is a joint responsibility of drivers and crews of trains or trams.

- In the case of trains, the driver / fireman / second person secures the locomotive,
- Guard applies the hand brake on the train,
- Guard confirms that hand brakes are applied and secured where applicable (if the locomotive is detached),
- Guard ensures the doors of brake van and other vehicles are locked, and
- In the case of trams, the driver secures the tram.

Practical

Discuss with your mentor the standard operating procedures for the securing of trains/trams on your railway or tramway.

Learn and demonstrate to your mentor requirements for the securing of trains or trams as applicable and their application to your job role on the railway or tramway.

6.11 FOLLOWING PROCEDURES FOR CROSSING OR PASSING OF TRAINS ON SINGLE TRACKS

Theory

Where tourist and heritage railways have sections of line involving single lines, trains may be required to cross or pass at stations or sidings. This involves adherence to strict safeworking rules and procedures for how the two trains cross or pass at the station or siding.

Train crew need to fully understand all of the stations and sidings on their railway where trains may cross or pass and the safeworking rules and procedures that need to be followed by the crew of both trains when approaching, traversing and departing the stations or sidings concerned.

Practical

Identify with your mentor any and all of the stations and sidings on your railway where trains may need to cross or pass.

Discuss the safe working rules and procedures for the crossing and passing of trains on your railway at both attended and unattended locations.

Learn these rules and procedures and demonstrate to your mentor how you would apply this information to your job role on the railway.

6.12 TRAIN AND TRAM MOVEMENTS - LEARNER'S NOTES

Insert your own notes here

Insert your own notes here

7 SIGNALS

7.1 INTERPRETING AND APPLYING INDICATIONS ON FIXED TRACKSIDE SIGNALS, POINT INDICATORS AND SIGNS

Theory

Fixed trackside signals, point indicators and signs are critical pieces of safeworking apparatus on railways and tramways. In the case of railways, they may be operated by signalmen to control the safe movement of trains and other vehicles on the railway's lines.

Train or tram crew need to have a thorough understanding of the location of these along the various sections of track of their railway or tramway and be able to recognise, interpret and respond to the indications that may be shown by the each of them.

Train or tram crew must know the correct procedures for their railway or tramway for the passing of signals in the stop position.

Practical

Identify with your mentor all of the fixed trackside signals, point indicators or signs on your railway or tramway.

Discuss the indications that may be shown by the each of these and the implications for train or tram crew. Learn the location of the signals, point indicators or signs and the safeworking rules and standard operating procedures that must be followed when responding to the various signal indications.

Demonstrate to your mentor how you would apply this information to your job role on the railway or tramway.

7.2 GIVING AND INTERPRETING HAND AND LIGHT SIGNALS AND RADIO COMMANDS

Theory

All train or tram crew and other qualified personnel work collaboratively to achieve the safe and effective operation of locomotives, trains and trams. A key skill required of all the personnel concerned is being able to give and interpret the standard railway or tramway hand signals and to use portable radio equipment.

In various circumstances, the use of these hand signals and radio equipment may be complemented by the use of flags and lights (e.g. where night work is involved).

It is important therefore that you are proficient in giving such signals and using the portable radio equipment as per your railway's or tramway's standard procedures. You must also be able to recognise and correctly interpret signals given by others.

Practical

In conjunction with your mentor obtain and study your railway's or tramway's procedures for the signals you need to be able to give and interpret when working with other personnel during your job functions. In particular, identify and discuss with your mentor the various situations in which the signals and radio equipment are used during locomotive, train or tram operations.

Where applicable, ride in the cab of a locomotive for a train journey and observe the use of radio equipment and hand, flag and light signals by the train crew and other railway staff during the journey.

Where applicable, ride in the driver's compartment during a tram journey and observe the use of radio equipment and/or hand and other signals by the driver / tram crew and other tramway staff during the journey.

Learn and demonstrate to your mentor the giving and interpretation of the various hand, flag, light and other signals and radio equipment used on your railway or tramway and your understanding of their application to your job role.

7.3 INTERPRETING AND APPLYING AUDIBLE SIGNALS

Theory

Railways and tramways have always made use of a range of audible signals to communicate with personnel, passengers and the general public. The audible signals may include train or tram whistles or horns, pea whistles blown by guards, bells, gongs, buzzers and sirens. They include:

- Locomotive whistle and horn signals (used for communicating with the crew, passengers, the public and station personnel on departure, when approaching level crossings and stations, and in emergency situations),

- Tram gongs and bells (used for communicating with the crew, passengers and the public on departure, when approaching stops, and in emergency situations),

- Guards' or tram conductor's whistles, bells and gongs (used to communicate with crew, passengers and station personnel on departure, during a journey and in emergency situations),

- Passengers' emergency alarms or systems (used to alert the guard and other crew that there is an emergency situation on the train), and

- Bells and lights at level crossings (which may be used in conjunction with boom gates to indicate the approach of a train and to indicate to vehicles and pedestrians that they must wait until the train has passed before proceeding).

You need to be thoroughly aware of the different audible signals used in various operational and emergency situations on your railway or tramway and be able to respond correctly if and when the various signals are sounded.

Practical

Identify with your mentor all of the audible signals used on your railway or tramway. Discuss the purpose of the each of the signals and the implications for train or tram crew, passengers and the public.

Learn the sounds and patterns of the various audible signals and the safeworking rules and standard operating procedures that must be followed when responding to them.

Demonstrate to your mentor how you would apply this information to your job role on the railway or tramway.

7.4 SIGNALS - LEARNER'S NOTES

Insert your own notes here

Insert your own notes here

8 ABNORMAL SITUATIONS

8.1 EXAMPLES OF ABNORMAL SITUATIONS

Theory

There are a range of abnormal and emergency situations that may occur during railway or tramway operations. You should be aware of recognising abnormal and emergency situations and your railway's or tramway's procedures in the event that they occur. Where you become aware of an emergency or an abnormal situation you should implement the relevant sections of the emergency procedures of the railway or tramway.

The following are some examples of potential abnormal and emergency situations.

- a track obstruction
- trespassers crossing the track
- equipment failure
- incorrect information or failure in communications
- a passenger emergency (e.g. illness or injury)
- an ill crew member
- a passenger initiated alarm
- a false alarm
- a derailment
- a collision (rail to rail and or rail to road)
- a chemical spill
- a fire and explosion on the locomotive, train or tram
- a bomb threat
- head or marker light failure

Specific types of some abnormal situations are discussed in the following sections, however you should make sure that you are fully aware of the emergency procedures of your railway or tramway and can implement the required action if the various types of emergency or abnormal situation should occur.

Emergencies and Emergency Management Plans

Ensure you are familiar with your Railway's Emergency Management Plan and how it is applied in conjunction with the Emergency Services in your area. In the case of an emergency, confirm who is initially in charge of the site and when and how this responsibility changes to the Emergency Services and the Senior Combatant Agency at the site.

You need to be familiar with your responsibilities in the case of emergency and the requirement not to undertake any activity that is likely to destroy any evidence unless it is essential to do so in the treating of injured persons.

The incident site is controlled by the Senior Combatant Agency on site until such time as it is cleared and declared a wreck, then the Railway becomes responsibility for clearing of the track.

Prior to allowing work to commence on site, the Railway must ensure that it has undertaken an investigation to establish ensure and that all necessary evidence has been obtained.

Note: Emergency Services terminology varies from State to State, hence some terms will need to be changed to reflect the terminology of the State in which the training materials to be used. In all States, the Senior Combatant Agency is the Police except where a *Dangerous Goods Spill* occurs in which case the Emergency Services will take charge.

Notifiable Occurrences

Rail Safety Regulations require that all incidents which occur on a railway are deemed as either Category A or B. A category A incident must be reported by the railway to the Rail Safety Regulator immediately or at least within 2 hours of the incident by the person nominated by the railway concerned. A written notification is required on the appropriate form within 72 hours. Incidences deemed as Category B are to be reported within 48 hours on the appropriate form by the designated person from the railway. Each railway will have its own procedures for handling of the investigation and reporting or emergencies and all workers need to be aware of these requirements. In some instances, the Rail Safety Regulator may advise that an investigation will be conducted by that organisation and therefore nothing is permitted to be shifted until such time as the investigation has been undertaken.

If the incident occurs on a railway operated by another organisation, the railway concerned will have an operating agreement detailing the actions to be taken.

(Note: In some States, the time frame for reporting of Category B incidences may vary and customised training materials based on the generic Lessson Plans will need to reflect the requirements of the State in which they are to be used.)

Practical

Check your railway's or tramway's documentation regarding abnormal and emergency situations and what action should be taken if they occur. In particular, identify your role and duties in these situations.

Discuss potential abnormal and emergency situations that could occur on your railway or tramway with your mentor and the action you would need to take if they should occur.

8.2 TRAIN OR TRAM FAILURE PROCEDURES

Theory

The failure of a train or tram in service creates particular hazards within a working railway or tramway. It is critically important that you are familiar with your railway's or tramway's safeworking procedures in the event of a train or tram failure and in particular, the action you might need to take within your job functions on the railway or tramway.

Practical

Check your railway's procedures for the action that needs to be taken in the event of a train or tram failure. In particular, identify your role and duties in such situations.

Discuss with your mentor the various circumstances in which a train or tram could fail on your railway or tramway and the action you would need to take if such a failure should occur.

8.3 ACCIDENT PROCEDURES

Theory

When an accident, occurrence or incident occurs it may be the duty of the railway or tramway operator concerned to immediately report the incident to the relevant rail safety regulator. It is therefore important that any personnel becoming aware of an accident must immediately report the accident to the designated person within the railway or tramway operator concerned who can then initiate action appropriate internal action[2] as well as fulfil its legal reporting obligations. For reporting purposes, a railway or tramway accident or incident means:

- an accident or incident on railway or tramway premises or vehicle that results in:
  - the death of a person
  - a person requiring immediate treatment as an in-patient in a hospital
- a running line derailment of any unit of rolling stock
- a collision between any rolling stock or tram and any person
- a collision between any rolling stock or tram and any other vehicle, infrastructure, obstruction or object which resulted in significant property damage
- an implosion, explosion, fire or other occurrence which resulted in significant property damage
- a notifiable occurrence or incident (this means an occurrence or incident that has been specified in the Rail Safety Act and relevant Regulations [See also Sections 5.5 and 8.1 above].)

It is vital that all railway or tramway personnel are aware of the action they must take should they become aware of an accident within their railway or tramway.

> ***Practical***
>
> Check your railway's procedures concerning the action to be taken in the event of a rail accident. In particular, identify your role and duties in such situations. Discuss with your mentor the potential accidents that could occur on your railway or tramway and the action you would need to take if they should occur.

[2] Needs to be consistent with the National Model Rail Safety Legislation

8.4 PROCEDURES IN THE EVENT OF ILLNESS (OF PERSONNEL OR PASSENGERS)

Theory

One abnormal situation that could occur within a railway or tramway is that either a passenger or an employee or volunteer becomes ill or is injured in the course of railway or tramway operations.

In the case of the passenger, the occurrence of the illness or injury needs to be identified and clarified and appropriate first aid procedures initiated. Railway or tramway personnel must be immediately notified and medical help should be sought as per the railway's standard emergency procedures. Needless to say, the railway or tramway operations should be suspended pending appropriate attention being given to the ill or injured person (e.g. the train or tram is stopped).

In the case of ill or injured railway or tramway personnel, appropriate action also needs to be taken to ensure that another suitably qualified person can take over the functions of the ill or injured staff members or volunteer for the duration of the emergency (e.g. fireman, second person or tram conductor can act for incapacitated driver, or a suitably qualified guard takes over from incapacitated guard).

> ***Practical***
>
> Check your railway's or tramway's procedures concerning the action to be taken in the event of illness or injury. In particular, identify your role and duties in such situations. Discuss with your mentor the action you would need to take if such situations should occur.

8.5 FIRST AID

Theory

All stations depot workshops, gang sheds and other locations plus all locomotives, railcars and brake vans must carry a first aid kit in accordance with State legislation.

In medical emergencies, persons suitably qualified in first aid procedures should administer first aid pending the arrival of paramedic or medical personnel. Make sure that you are familiar with the railway or tramway operator's procedures regarding first aid and that you are aware of the location of first aid kits on trains, stations, yards, depots and sheds in your railway or tramway and personnel who are qualified first aiders.

> ***Practical***
>
> Check your railway's or tramway's procedures concerning the administering of first aid. In particular, know your role and any limits of responsibilities in such situations.
>
> Learn and demonstrate to your mentor your awareness of the location of first aid kits on trains, stations, yards, depots and sheds in your railway or tramway and what action you should take if a situation requiring first aid occurs.

8.6 EMERGENCY PROCEDURES

Theory

All railways or tramways have emergency procedures within their safety management system, detailing the procedures and action that needs to be taken in the event of various types of emergency and abnormal situations (See the examples of potential abnormal and emergency situations summarised in Section 8.1).

Typical topics covered within emergency procedures include:

- Accidents, fire, obstructions or serious defects,
- Protection of trains or trams stopped by accident, failure, obstruction or other cause,
- Accidental dividing of train,
- Train or tram or vehicles running away,
- Driver, Fireman, Guard or Tram Conductor incapacitated,
- Derailments,
- Defective level crossings devices, and

- Reporting of emergencies

All personnel must have a thorough understanding of the procedures and action that needs to be taken in the event of various types of emergency situations and be able to apply that understanding should an emergency arise.

> ***Practical***
>
> Check your railway's or tramway's emergency procedures and action that needs to be taken should various types of emergency arise. In particular, check your role and any limits of responsibilities in such situations. Learn and demonstrate to your mentor your understanding of your railway's or tramway's emergency procedures, including what action you should take if an emergency situation occurs.

8.7 FIRE EMERGENCY PROCEDURES

Theory

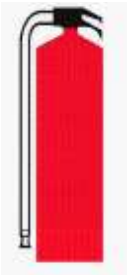
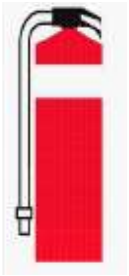
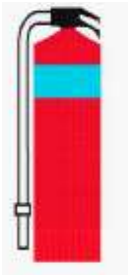
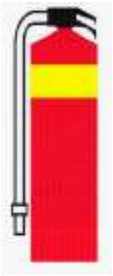
Fire danger is always present, no matter where we are working. Most fuels, chemicals and even electricity present a fire danger. You should know and practice the fire drills and procedures of your railway or tramway and in particular, be aware of the location and application of the various types of portable fire extinguishers and other fire prevention and fire fighting equipment on the locomotives, trains, trams and other locations in your railway or tramway.

If using a portable fire extinguisher, take care to select and use the right type of fire extinguisher for a particular class of fire. Using the wrong type of fire extinguisher (e.g. a water based extinguisher on an electrical fire) can be extremely dangerous and in some circumstances may make the fire worse. The chart on the following page is based on information in the publication of the Tasmania Fire Service (2007) '***Guide for the Selection and Location of Portable Fire Extinguishers and Fire Blankets'*** downloadable from……

http://www.fire.tas.gov.au/mysite/publications/fireExtinguisherGuide.pdf

Similar guides and charts are available from the fire authorities in your own State or Territory. Make sure you understand and can apply your railway's or tramway's fire emergency procedures and how to select and use the correct portable fire extinguisher, if required.

Portable Fire Extinguisher Summary

	WATER	CARBON DIOXIDE (CO_2)	DRY CHEMICAL POWDER	FOAM	WET CHEMICAL	VAPOUR-IZING LIQUID
Fires are divided into different classes. The word YES or NO signifies the suitability of each extinguisher for use on a particular class of fire						
A Ordinary combustibles (wood, paper, plastic, etc.)	Yes	Limited	Yes AB(E) No B(E)	Yes	Yes	Yes
B Flammable & combustible liquids (petrol, paints, etc.)	No	Limited	Yes	Yes	No	Limited
C Flammable gases (LPG, Acetylene, etc.)	No	No	Yes	No	No	Limited
(E) Fire involving energised electrical equipment	No	Yes	Yes	No	No	Yes
F Fire involving cooking oils & fats	No	No	No AB(E) Yes B(E)	Limited	Yes	No

Practical

Check your railway's or tramway's procedures concerning fire emergencies and the use of portable fire extinguishers in your railway or tramway. In particular, check your role and any limits of responsibilities in such situations.

Learn and demonstrate to your mentor your understanding of the fire emergency procedures and your awareness of the location of portable fire extinguishers and other fire prevention and fire fighting equipment on trains, stations, yards, depots and sheds in your railway or tramway, including what action you should take if a fire emergency should occur.

8.8 EVACUATION PROCEDURES

Theory

As part of their safety management systems, all railways and tramways have evacuation procedures that are initiated in various types of emergency situations. The evacuation procedures typically contain such information as:

- Any situation which may result in a requirement for evacuation shall be immediately advised to the police and emergency authorities.
- The implementation and control of any evacuation shall be, in accordance with the railway's or tramway's emergency planning documents.
- Should circumstances dictate immediate action, the senior railway or tramway person available at the scene shall take charge and ensure that all public and railway or tramway personnel are moved with a minimum of fuss and panic to a safe location until emergency services arrive.
- Train or tram crew shall ensure that all locomotives, trains, trams and vehicles are shut down and secure.

- The appropriate officers listed in the emergency procedures manual should be advised of the emergency and evacuation situation and be kept informed of any changes.

Make sure you understand and can apply your own railway's or tramway's evacuation procedures and any specific action you must take in an evacuation situation as part of your job role on the railway or tramway.

Practical

Check your railway's or tramway's evacuation procedures. In particular, discuss with your mentor your role and any limits of responsibilities during an evacuation. Learn and demonstrate to your mentor your understanding of the evacuation procedures, including what action you should take if an evacuation of a train or tram and/or railway or tramway facilities is initiated.

8.9 ABNORMAL SITUATIONS - LEARNER'S NOTES

Insert your own notes here

Insert your own notes here

9 SAFETY AND EFFECTIVE COMMUNICATION

9.1 VERBAL COMMUNICATION

Theory

Effective verbal communication is central to the safe operation of a railway or tramway. This includes **speaking** clearly and slowly when giving instructions, making announcements, answering queries, giving verbal reports on situations, providing feedback and providing training to others. In all spoken communications, it is valuable if possible to check and confirm that the other person(s) have heard you and have understand your message correctly (closed loop communication).

The other dimension of verbal communication is **listening**. This requires more than just 'hearing'. It requires paying careful attention to what is being said and interpreting the message that is being given. If possible, it is important to confirm with the person giving the message your interpretation and understanding of what was said (closed loop communication). This is particularly important in safety critical situations. In such situations, if a message is not clear, the person giving the message must be asked to repeat it.

Verbal communication may also be conducted with the aid of equipment such as a:

- railway or tramway telephone system,
- commercial hard wired telephone
- mobile (cellular) telephone
- train or tram to base radio
- end to end (e.g. driver to guard) radio
- portable (hand-held) radio

All such communication should follow sound communication practices and should be in accordance with the standard operating procedures of the railway or tramway.

9.2 READING AND INTERPRETING DOCUMENTS

Theory

Another important communication skill is the ability to read and interpret the various documents directly related to your job role. This may include such documents as:

- Job descriptions
- Training materials
- Standard Operating Procedures (SOPs)
- Safety management system
- Rail safety requirements and practices
- Equipment manuals and handbooks
- Pre-operational checklists
- Rail Operator's rule book and general instructions, including:
  - safeworking forms
  - special notices / train or tram orders
  - route maps
  - timetables
  - yard and shed diagrams
  - etc.

It is important that you either have a copy of or have ready access to the key documents related to your job role on your railway or tramway and that you have read the contents of the documents and understand those aspects of the documents that relate to your job role and can apply them in your day-to-day work.

If any aspects of key documentation is unclear to you or you have difficulty reading and understanding it, you should seek assistance from your training mentor or other senior railway or tramway personnel.

9.3 WRITING

Theory

All job roles on a railway or tramway usually involve some form of writing. For some jobs, this may just involve filling in forms or checklists. At the other extreme it may involve writing letters or preparing various reports such as safety incident reports or reports on railway or tramway operations. In many situations the writing will involve

handwritten documents or responses. In other situations the written communication may require the use of word processing software in a computer.

Many, if not most of the written communications within railways will have some safeworking and/or general safety implication. It is important therefore that handwritten documents are clear, legible and accurate. Computer-based written communication should also be double-checked for accuracy and be appropriately printed and saved as per the railway's standard operating procedures

9.4 NON-VERBAL COMMUNICATION

Theory

Railways or tramways have always used a range of non-verbal communication methods, a number of which have already been covered elsewhere in this workbook. They include:

- fixed trackside signals, signs and points indications,
- whistles,
- train horns,
- guards' pea whistles,
- hand signals,
- flags,
- hand held lights,
- buzzers,
- bells,
- gongs,
- sirens,

You should be aware of the form and purpose of all non-verbal communication used on your railway or tramway and be able to recognise and respond to the communication as per the standard operating procedures and safeworking requirements of the railway or tramway concerned.

9.5 READING AND INTERPRETING SIGNS

Theory

Railways and tramways also used a range of signage as an integral part of its operations most of which is safety related. This includes:

- trackside speed signs,
- safety signs (danger signs, warning signs, signs alerting people to safe practices and requirements, etc.),
- restricted access signs,
- level crossing signs,
- tram stop signs,
- directional signs on platforms, and
- station name signs.

You should be aware of the location and purpose of all such signs and should work in compliance with the intended instructions and directions implicit in the signs.

Practical

Check your railway's or tramway's standard operating procedures for communication including verbal, written (writing and reading), non-verbal and the recognition and interpretation of signs. In particular, discuss with your mentor the types of communication required in your job role, particularly as they relate to safety issues.

Learn and demonstrate to your mentor your ability to effectively use the various forms communication relevant to your job role. This may involve the mentor posing a series of simulated situations or case studies and the use of applicable forms and pro-formas.

9.7 SAFETY AND EFFECTIVE COMMUNICATION - LEARNER'S NOTES

Insert your own notes here

SEPARATE ATTACHMENT 1

SAFEWORKING

KNOWLEDGE

CHECKLIST

SEPARATE ATTACHMENT 2

SAFEWORKING

PERFORMANCE

CHECKLIST