



Guard

**Lesson Plan
and
WorkBook**

(Generic Version)

Version 1

June, 2011

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.

Disclaimer

The information contained herein is made available by the Association of Tourist & Heritage Rail Australia Inc (ATHRA) as part of a set of ***generic training and assessment templates*** for use by individual heritage railway operators.

It is intended that heritage railway operators will be able to create their own local training resources by suitably modifying, embellishing and customising the generic templates to meet their own requirements.

ATHRA does not assume any legal liability or responsibility for the accuracy, completeness or usefulness of any information provided in these generic resources.

© Association of Tourist & Heritage Rail Australia Inc. 2011

CONTENTS

- 1 How to use this lesson plan booklet**
- 2 List of reference material**
- 3 Objectives of the lesson plan**
- 4 Role and responsibilities of a guard on a train**
 - 4.1 *Duties of a guard*
 - 4.2 *Statutory responsibilities including rail safety and safeworking requirements and regulations related to the functions of a guard*
 - 4.3 *Standard procedures of the rail operator applicable to a guard, including record keeping and the reporting of defects and incidents*
- 5 Preparing for train operations**
 - 5.1 *Obtaining and checking all required documentation*
 - 5.2 *Checking that all required equipment is available on the train*
 - 5.3 *Checking watch*
 - 5.4 *Checking the operation of communication equipment*
 - 5.5 *Confirming that a train examination has been completed*
 - 5.6 *Testing the continuity of the brake on the train*
 - 5.7 *Reporting and remedying identified defects*
 - 5.8 *Preparing for train operations - Learner's notes*
- 6 Conducting train operations**
 - 6.1 *Following applicable safeworking procedures*
 - 6.2 *Signalling driver to start a train*
 - 6.3 *Caring for the welfare of passengers*
 - 6.4 *Communication*
 - 6.5 *Giving and interpreting hand signals*
 - 6.6 *Making announcements to passengers*
 - 6.7 *Checking that passengers are clear of the doors and the doors are shut prior to departure or shunting*
 - 6.8 *Checking trains in and out of a platform and indicating to the driver if there is a situation which requires the train to stop*
 - 6.9 *Remaining vigilant throughout the journey but particularly at or near stations or fixed signals*

- 6.10 *Assisting with fault finding on a train*
- 6.11 *Flagging defective level crossings*
- 6.12 *Detecting an emergency situation during operation of the train and pulling the emergency brake valve*
- 6.13 *Conducting an emergency evacuation of passengers if required*
- 6.14 *Assisting the driver during emergency situations*
- 6.15 *Completing all required documentation at the end of a journey*
- 6.16 *Conducting train operations- Learner's notes*

7 Securing a stationary train

- 7.1 *Applying the brake*
- 7.2 *Confirming that hand brake on leading vehicle is applied if locomotive is detached (where required)*
- 7.3 *Applying the handbrake on the brake van and other vehicles if required*
- 7.4 *Locking doors of brake van and other vehicles as required*
- 7.5 *Securing a stationary train -- Learner's notes*

8 Assisting in the shunting of a train

- 8.1 *Coordinating shunting operations*
- 8.2 *Giving hand signals directly to the driver*
- 8.3 *Coupling and uncoupling locomotives to and from trains*
- 8.4 *Confirming brakes are operational on vehicles being shunted*
- 8.5 *Ensuring that all required safeworking equipment is correctly set and secured*
- 8.6 *Assisting in the shunting of a train -- Learner's notes*

SEPARATE ATTACHMENT 1 – Guard -- knowledge checklist

SEPARATE ATTACHMENT 2 – Guard -- performance checklist

SEPARATE ATTACHMENT 3: Train examination addendum (1) Lesson plan and workbook, (2) Knowledge checklist (3) Mentor's Q&A and (4) Performance checklist

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 the role and responsibilities of a train guard on your railway. A mentor who is already a qualified and highly experienced guard has been appointed by your railway 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 that you need to use such as job descriptions, operating and service manuals and handbooks, safety management system, the rail operator's rule book and general instructions, standard operating procedures, checklists, timetables, route maps, etc.

There are five 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 to guards.

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 job description for a **guard**, describing a guard's role and responsibilities

- Rail Operator's Standard Operating Procedures (SOPs) for the operation of trains (as they relate to the duties of a guard)

- Safety management system

- Rail safety requirements and practices

- Rail Operator's Rule book and General Instructions, including:
 - Safeworking forms
 - Special Notices / Train Notices
 - Route maps
 - Timetables
 - Yard and shed 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 ...,,

- Role and responsibilities of a guard on a train,
- Preparing for train operations,
- Conducting train operations,
- Securing a stationary train, and
- Assisting in the shunting of a train.

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 qualified and experienced guards on your railway.

4 ROLE AND RESPONSIBILITIES OF A GUARD ON A TRAIN

4.1 DUTIES OF A GUARD

Theory

The guard is nominally in charge of the train and is the liaison between the train and train controller or station master. The job of a guard on a train may involve a variety of tasks including:

Prior to train operations

- Signing on and checking roster, notice boards, operational instructions, timetables and other information needed to operate as a guard
- Obtaining and checking all required documentation
- Checking that all required equipment is available on the train
- Checking the operation of required equipment
- Conducting or confirming that a train examination has been completed
- Where necessary, testing the continuity of the brake on the train
- Reporting and remedying identified defects as per standard procedures

During train operations

- Ensuring compliance with safeworking instructions and authorities
- Signalling driver to start a train and giving the second 'right')
- Signalling the locomotive crew where to bring the train to a stand in a platform
- Caring for the welfare of passengers
- Communicating with others using appropriate methods and communication devices
- Making announcements to passengers
- Where applicable, checking that passengers are clear of the doors and the doors are shut prior to departure or shunting
- Checking the trains in and out of the platform and indicating to the driver if there is a situation which requires the train to stop
- Remaining vigilant throughout the journey but particularly at or near stations or fixed signals
- Maintaining an up-to-date knowledge of the track and yard and of the general road (route) and applying it during train operations
- Assisting with fault finding on a train
- Flagging defective level crossings

- Detecting an emergency situation during operation of the train and pulling the emergency brake valve
- Directing the driver during emergency situations, including the emergency evacuation of passengers if required
- Reporting to and taking directions from Train Control
- Completing all required documentation at the completion of a journey
- Following the Rail Operator's Emergency Plan during emergencies and abnormal situations

Securing a stationary train

- Applying the hand brake
- Confirming that hand brake on leading vehicle is applied if locomotive is detached if required by the rail operator's instructions
- Applying the handbrake on the brake van and other vehicles if required and securing it in accordance with the railway operator's procedures
- Locking doors of brake van and other vehicles as required

Assisting in the shunting of a train

- Coordinating shunting operations
- Giving hand signals directly to the driver
- Coupling and uncoupling locomotives to and from trains
- Ensuring brakes on vehicles being shunted are operational – note that it is permitted to shunt without air brakes being operational provided the shunter is aware of the extra stopping distance
- Ensuring that all required safeworking equipment is correctly set and secured

Practical

Obtain a copy of your railway's job description or duty statement for a guard.

Describe to your mentor the various functions and duties you must perform when working as a guard on a train in service.

Travel with a train crew and observe the various functions as they are being performed by the guard on the train.

Clarify with the guard any aspects of these functions that are unclear.

4.2 STATUTORY RESPONSIBILITIES INCLUDING RAIL SAFETY AND SAFEWORKING REQUIREMENTS AND REGULATIONS RELATED TO THE FUNCTIONS OF A GUARD

Theory

The role of a train guard is to be in charge of the train and assist the driver and other members of a train's crew to maintain the safe, effective and efficient operation of the train throughout its journey – particularly the safety and well-being of passengers. Guards must therefore be very familiar with the rail safety requirements related to their work and all pertinent safeworking rules and requirements. They must also have a good working knowledge of the basic regulatory requirements for the operation of trains. The guard is required to report to and take directions from the train controller.

You need to make sure you are familiar with the railway and other documents that describe your statutory responsibilities and that you understand their contents and the implications for your work as a guard on the type(s) of trains operating on your railway and the routes over which they run.

A particularly important responsibility is to be aware of the hazards involved in working as a guard and following the rail operator's strategies for minimising or eliminating the risks involved. Examples of hazards that exist on diesel locomotives include:

- Falling from heights
- Working in confined spaces
- Working under wires
- Chemicals and fuel
- Hot surfaces
- Moving work platform
- Oil spills on floors
- Dehydration and fatigue
- Noise
- Working with electric lights and power

Hazard management strategies may include:

- Ensuring public safety,
- Using personal protective equipment or PPE,
- Using fire extinguishers and water hoses to control fire emergencies, or
- Following the railway'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 as a guard.

4.3 STANDARD PROCEDURES OF THE RAIL OPERATOR APPLICABLE TO A GUARD, INCLUDING RECORD KEEPING AND THE REPORTING OF DEFECTS AND INCIDENTS

Theory

Make sure you have a copy of those standard procedures of the operator of your railway that apply to the functions and duties of a train guard. You should read these procedures and make sure that you are thoroughly familiar with them and can apply them when performing the tasks of a guard. 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 a safety incident or a defect in a piece of train equipment, including promptly reporting to the train controller.

Practical

In conjunction with your mentor, make sure you have a copy of the relevant standard procedures and understand how they must be applied in the day to day work of a train guard. 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 gradually learn how to apply these procedures yourself progressively through your training -- gradually developing your expertise through guided practice, as instructed by your mentor.

**4.4 ROLE AND RESPONSIBILITIES OF A GUARD ON A TRAIN -
LEARNER'S NOTES**

Insert your own notes here

5 PREPARING FOR TRAIN OPERATIONS

5.1 OBTAINING AND CHECKING ALL REQUIRED DOCUMENTATION

Theory

Guards have a range of paperwork that they must check and complete before, during and at the completion of a train journey. You need to make sure you are familiar with all of the railway's documents concerned. These may include:

- Safeworking documentation,
- Timetables,
- Route maps,
- Train authorities,
- Special notices, and
- Train orders.

Practical

In conjunction with your mentor, make sure you have a copy of the relevant documentation that must be checked and/or completed by a guard and understand your responsibilities in processing this paperwork.

Demonstrate to your mentor your understanding of your responsibilities in respect of this documentation.

5.2 CHECKING THAT ALL REQUIRED EQUIPMENT IS AVAILABLE FOR THE GUARD'S USE ON THE TRAIN

Theory

One of the duties of a guard is to check that various pieces of equipment are available for use on the train, and are in good working order. The exact list of these will be dependent on the railway and the type of train concerned.

The following are examples of the types of equipment that might be included (where required by the railway concerned):

- a fixed or portable radio or mobile phone (where necessary),
- a watch,
- a pea whistle,
- a carriage key,
- one red and one green flag,
- a hand signal lamp during hours of darkness,
- a portable tail disc or triangle,
- a set of side and tail lamps or a set of marker lights
- a breakdown kit,
- 6 detonators or audible warning devices
- a fire extinguisher,
- a first aid kit ,including supplementary burns and other modules as required, and
- a point clip.

Practical

Discuss with your mentor the types of equipment / documentation that are required for the guard's use on the trains in your railway.

Under the supervision of your mentor, learn and demonstrate how to check and use the equipment you are required to use as part of a guard's duties on your railway.

5.3 CHECKING WATCH

Theory

An important performance indicator of all railways is on-time running. A key instrument in making sure that trains run on time is a watch. It is important that the guard on a train has a well functioning watch and that it is set to the correct time.

When preparing for journeys, guards should check that their watch is operating correctly and set it by the correct time as per the railway's standard operating procedures. The guard should also synchronise watches with the train control, driver, fireman, second person, and other persons involved in making sure that the train runs on time.

Practical

Under the supervision of your mentor, learn and demonstrate how to check and set your watch as per your rail operator's standard procedures.

5.4 CHECKING THE OPERATION OF COMMUNICATION EQUIPMENT

Theory

In the course of guard operations on a train the guard will be required to use the applicable communication equipment. The exact nature of that equipment will be dependent on the rail operator concerned, the facilities at the railway and the types of locomotives and rollingstock involved.

Whatever the type of communication equipment the guard is required to use, it is important to be able to carry out the required pre-operational checks on that equipment as per the rail operator's standard operating procedures and to take all required action if the equipment is found to be defective or malfunctioning in some way..

Practical

Under the supervision of your mentor, learn and demonstrate how to check the operation of the communication equipment you will be required to use as part of your guard duties.

Discuss with your mentor the types of communication equipment the types of defects that could occur in the communication equipment used on your railway and the action you should take in such circumstances.

5.5 CONFIRMING THAT A TRAIN EXAMINATION HAS BEEN COMPLETED

Theory

Prior to a train commencing a journey, it is a requirement that a train examination and air brake test are undertaken. In some railways and circumstances, this may be a designated train examiner. In others, it may be the train driver or guard.

Brake Examinations must be undertaken in accordance with the Rail Operator's Standard Operating Procedures. See also Separate Attachment 3.

Practical

Under the supervision of your mentor, learn and demonstrate how to confirm that a train examination has been completed.

Discuss with your mentor the examples of situations in which a problem might be identified during the course of a train examination and the action the action a guard should take in such circumstances.

5.6 TESTING THE CONTINUITY OF THE BRAKE ON THE TRAIN

Theory

Where the brake examination is carried out by the driver on a train, the guards must conduct a brake pipe continuity test of their train when specified by the railway Operators operating procedures or rules. Refer to Attachment 3 for information. No further test is required on a train where the brake test is conducted by the guard

The steps involved in conducting a continuity test are detailed in the railway operator's standard operating procedures.

An example of these steps is detailed below for a Westinghouse Air Braking System. *(Note that some Railway's use a Vacuum Braking System). You should check the type of braking system used on your Railway and follow the standard operating procedures of your rail operator for the testing of the braking system on your Railway.)...*

- fully open the emergency cock in the rear brake van for 5 seconds,
- note that the gauge falls and the brakes apply,
- the cock must then be closed and if the Brake Pipe continuity is in order the gauge will begin to rise and the brakes will be released from the locomotive, and
- The test is considered complete when the gauge reaches the pressure levels specified in brake instructions.

Practical

Under the supervision of your mentor, learn and demonstrate how to test the continuity of the brake on your train.

Discuss with your mentor the examples of situations in which a problem might be identified during the course of a continuity test and the action the action a guard should take in such circumstances.

5.7 REPORTING AND REMEDYING IDENTIFIED DEFECTS

Theory

Where defects and deficiencies are found in the course of checks of the train and its equipment, they will be recorded and rectified, isolated, tagged (where applicable) or reported as per the railway's standard operating procedures and regulatory requirements.

Different railway operators will have their own policies and standard operating procedures as to what action should be taken by guards when they discover defects and deficiencies on their train and its equipment.

Guards therefore need to understand and be able to implement their own railway'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 that may occur on your train and its equipment.

Learn and demonstrate to your mentor what action you would take if the various simulated defects or deficiencies were identified on your train.

5.8 PREPARING FOR TRAIN OPERATIONS- LEARNER'S NOTES

Insert your own notes here

6 CONDUCTING TRAIN OPERATIONS

6.1 FOLLOWING APPLICABLE SAFEWORKING PROCEDURES

Theory

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

In safeworking systems used on the tourism and heritage 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 trains in a different way.

The two most common safeworking systems used by Tourist and Heritage Railways are:

1. 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 one 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.

2. 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 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 block 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 and be able to apply the rules and requirements of the safeworking system correctly when fulfilling your role on the railway. **This is critical for the safety of the railway, personnel and passengers.**

Note that you will be trained separately in safeworking systems and procedures¹.

Practical

Discuss with your mentor the safeworking system used on your railway.
Learn and demonstrate to your mentor how to interpret and apply the rail operator's safeworking system when working as a guard on the railway'.

6.2 SIGNALLING DRIVER TO START A TRAIN

Theory

A key component of a guard's role is directing the starting and stopping and roadside work of trains and ensuring compliance with safeworking instructions and authorities. While the exact duties of a guard are dependent on the circumstances of the railway

¹See ***Safeworking Lesson Plan and Workbook*** and related resources

and its policies and procedures, the following is an example of a description of a guard's role in signalling the driver in the course of starting a train.....

1. *The guard's hand signal to start a train is acknowledged by the driver sounding a short whistle and then starting the train. It should be noted that the guard's hand signal does not authorise the driver to start when a stop indication is being displayed by any applicable fixed signal. When displaying a hand signal to start a train, the guard's whistle is also to be sounded.*
2. *At the commencement of a journey, or when re-starting from any place, the driver will as soon as practicable exchange hand signals with the guard or be satisfied that the fireman has done so, to ensure that the train is complete including an appropriate whistle signal. This will be in accordance with the railway's standard operating procedures and rules.*

It is important that you are fully familiar with the standard operating procedures of your railway as they apply to a guard's role in the starting and stopping of trains.

Practical

Under the supervision of your mentor, observe and practice how to signal the driver to start a train as per your railway's standard operating procedures. Learn and demonstrate to your mentor how you can start a train according to the standard operating procedures -- across the range of typical starting situations that may occur on your railway.

6.3 CARING FOR THE WELFARE OF PASSENGERS

Theory

A prime responsibility of a train guard is to care for the general welfare and well-being of the train's passengers. This may include:

- Making safety announcements on the public address system where required
- Checking that any side doors and gates of the train's vehicles are properly secured before a train leaves a station or commences shunting operations. Outward swinging doors on carriages must be closed with care so as to avoid injuring passengers.

- Ensuring that passengers do not lean out of doorways or windows while the train is moving.
- Recognising passengers who may be ill or injured and making sure that they are provided with appropriate first aid and required action is taken to obtain medical assistance.
- Assisting passengers during emergencies and various abnormal situations including evacuation of the train if required.
- Providing information to passengers regarding the train's journey.
- Responding to questions raised by passengers concerning either the normal operations of the train or abnormal situations that may arise.
- Providing train running times and any other details to train control as required

Make sure that you fully understand the relevant policies and standard procedures of your railway for the guard's role in caring for the welfare of passengers on a train and can correctly apply them in practice.

Practical

In conjunction with your mentor, make sure you have a copy of the relevant policies and standard procedures concerning the guard's role in caring for the welfare of passengers on a train. If in doubt on any aspect of the policies and 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 gradually learn how to apply these procedures yourself progressively through your training -- gradually developing your expertise through guided practice, as instructed by your mentor.

6.4 COMMUNICATION

Theory

A guard must be able to communicate with the driver, other train crew, train control and railway staff and passengers via the various communication systems and devices available on the train. These may include:

- train communication devices (e.g. bell, buzzer, intercom, etc.),
- mobile phone,
- fixed or portable radio,

- signal telephone,
- whistle,
- flags,
- lights,
- hand signals, and
- written communication (documents, forms, checklists, etc.).

Make sure you are familiar with all of the communication methods and related equipment you may need to use as a guard on your railway. Check the standard operating procedures and protocols for each form of communication and make sure that you know and understand them and can apply them when performing guard duties.

Practical

During a train journey under the supervision of your mentor, observe the different ways in which the guard communicates with the driver, other train crew and railway staff and passengers via the various communication systems and devices available on the train.

Through appropriate role plays, simulated situations and on an actual train journey, demonstrate to your mentor how you can communicate effectively in the course of train guard duties.

6.5 GIVING AND INTERPRETING HAND SIGNALS

Theory

Guards work directly with other members of the train crew and other qualified railway personnel in the safe and effective operation of locomotives and trains. A key skill required of all the railway personnel concerned is being able to give and interpret the standard railway hand signals. In various circumstances, these hand signals 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 as per your railway's standard procedures. You must also be able to recognise and correctly interpret signals given by others.

Note: If a hand signal is not received when one is expected, or a hand signal cannot be interpreted, the movement must be brought to an immediate and smooth halt until and correct hand signal is again received.

Practical

In conjunction with your mentor obtain and study your railway's procedures for the signals you need to be able to give and interpret when working with other railway personnel during the operations of a steam locomotive / train. In particular, identify and discuss with your mentor the various situations in which the signals are used during locomotive and train operations.

Ride on a train journey and observe the use of hand, flag and light signals by the train crew and other qualified railway staff during the journey. Note how the crew watch for and observe the guard's hand signal when arriving at a platform. Where the platform is on the fireman's/2nd person's side, the fireman/2nd person will relay the hand signals to the driver.

Learn and demonstrate to your mentor the giving and interpretation of the various hand, flag and light signals used on your railway.

6.6 MAKING ANNOUNCEMENTS TO PASSENGERS

Theory

A specific type of communication performed by all guards is making announcements to passengers. This may be either with the unaided spoken voice or using a public address system on the train. Such announcements should be clearly and slowly presented with clear articulation.

If making announcements without the aid of public address equipment, it is important to project your voice strongly and with authority as per your railway's standard procedures.

You should learn or read the script of the announcements and practice them well before having to make them on the train.

Practical

Under the supervision of your mentor, observe and practice how to make announcements to passengers as per your railway's standard operating procedures.

Learn and demonstrate to your mentor how you can make the various types of announcements to passengers during a train journey.

6.7 CHECKING THAT PASSENGERS ARE CLEAR OF THE DOORS AND THE DOORS ARE SHUT PRIOR TO DEPARTURE OR SHUNTING

Theory

A key element of responsibilities of train guards is the welfare of the passengers on the train. Serious injuries can occur if passengers are not clear of outward opening doors or such doors are not shut prior to the starting of the train.

Guards must therefore pay particular attention to checking that all passengers are clear of the outward opening doors and the all such doors are shut prior to departure or shunting.

Note that this Section only refers to trains with carriages having **outward opening doors**. Not all railways have outward opening doors.

Practical

Check whether your railway has any carriages with outward opening doors.

In railways where train consists may include carriages with outward opening doors, observe, practice and demonstrate, under the supervision of your mentor, how to check that all passengers are clear of outward opening doors and the all such doors are shut prior to train departure or shunting.

6.8 CHECKING TRAINS IN AND OUT OF THE PLATFORM AND INDICATING TO THE DRIVER IF THERE IS A SITUATION WHICH REQUIRES THE TRAIN TO STOP

Theory

A prime responsibility of a train guard is checking trains in and out of the platform and indicating to the driver if there is a situation which requires the train to stop. This usually involves leaning out of the guard's cab or brake van and looking carefully and vigilantly so as to watch the trains moving in and out of the platform. The guard will identify any situation which requires the train to stop and communicate with the driver accordingly.

Guards need to be aware of the types of situations that can occur at stations on their railway that may warrant the stopping of the train.

Practical

Discuss with your mentor the examples of situations you would observe when checking trains in and out of the platform which would require you to indicate to the driver to stop the train.

Through appropriate role plays, simulated situations and on an actual train journey, demonstrate to your mentor how you can identify various situations which would require the train to stop and how you would indicate this to the driver.

6.9 REMAINING VIGILANT THROUGHOUT THE JOURNEY BUT PARTICULARLY AT OR NEAR STATIONS OR FIXED SIGNALS

Theory

During a train journey it is vital that the guard remains vigilant at all times to identify any situation that may potentially be unsafe or cause a problem in the safe and efficient running of the train.

This may include problems on the road ahead or behind or on the train itself. It is particularly critical to be alert at or near stations and when approaching or stopping at fixed signals.

The guard should also monitor and record the train's 'on-time' running performance against the railway timetable and schedule and alert the driver where the train is running out of schedule. Where possible, when a train has traversed a level crossing involving lights and bells, the guard should check that the lights and bells have deactivated once the train has passed. If the lights and bells have not deactivated, the guard will alert the driver to stop the train so that the problem can be investigated and appropriate action initiated. Any crossing defect needs to be reported to train control as soon as possible. Guards and other qualified employees usually also have special responsibilities for flagging defective crossings identified by the driver (See Section 6.11). Note that not all trains run with a GB on the rear and hence this is not always possible.

Practical

During a train journey under the supervision of your mentor, learn and demonstrate how you can practice being vigilant and recognise any situations that may potentially be unsafe or cause a problem in the safe and efficient running of the train as well as monitoring the on-time running of the train.

6.10 ASSISTING WITH FAULT FINDING ON A TRAIN

Theory

It is the role of the guard to assist the driver in the identification of faults and defects on the train and its associated equipment and related trouble-shooting activities.

You need therefore to be familiar with the types of faults and defects that could occur on the train concerned and the trouble shooting processes typically used by drivers.

Practical

During a train journey under the supervision of your mentor and with the assistance of the driver, learn the types of faults and defects that could occur on the train and the ways in which the guard can assist the driver in the identification of faults and defects on the train and its associated equipment and related trouble-shooting activities. Through appropriate role plays and simulated situations, demonstrate to your mentor how you would assist the driver in the identification of faults and defects on the train.

6.11 FLAGGING DEFECTIVE LEVEL CROSSINGS

Theory

In circumstances where train drivers have identified that a level crossing ahead is defective (e.g. lights and bells fail to operate) on advice from train control, they will stop the train to allow the guard to flag the crossing while the train passes. Once the driver has stopped the train, he/she will call the guard forward. Subject to the roads and traffic regulations in the State/Territory concerned, the guard will attempt to operate the test switch. However if this is not working, then he/she will stop any road traffic at the crossing with a red flag or stop disc until the train has fully traversed it.

Once the train has passed and stopped, the guard will ensure any crossing equipment has stopped before rejoining the train. In some instances, the level crossing equipment may be controlled by fixed signals which may need to be passed in the stop position. If required, an appropriate authority is to be obtained prior to authorising the train to pass the signal at stop

Practical

Where applicable in your railway, and under the supervision of your mentor, observe and demonstrate how to flag a defective level crossing during a train journey as per standard operating procedures.

6.12 DETECTING AN EMERGENCY SITUATION DURING OPERATION OF THE TRAIN AND PULLING THE EMERGENCY BRAKE VALVE

Theory

There are a range of abnormal and emergency situations that may occur during a train journey. You should be able to recognise abnormal and emergency situations and be thoroughly aware of your railway's procedures in the event that they occur.

Where you become aware of an emergency that warrants the stopping of the train, you should pull the emergency brake valve as per your railway's standard operating procedures and emergency procedures and that the train is brought to stand in an appropriate location.

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

- a track obstruction,

- trespassers crossing the track,
- equipment failure,
- signals in stop mode,
- incorrect information or failure in communications,
- a passenger emergency (e.g. illness or injury),
- an ill crew member,
- an assault on a passenger or personnel,
- brawls between passengers,
- a passenger initiated alarm,
- a false alarm,
- a derailment,
- a collision,
- a chemical spill,
- a fire and explosion on the locomotive or train,
- a bomb threat, and
- head or marker light or whistle failure

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 Lesson Plans will need to reflect the requirements of the State in which they are to be used.)

Practical

Check your railway's documentation regarding abnormal and emergency situations and what action should be taken when they occur. In particular identify the role of the guard in these situations.

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

Demonstrate how you would pull the emergency brake valve on your train as per your railway's standard operating procedures and emergency procedures. Discuss also the *Emergency Management Plan* of your railway and the policy and procedures related to *Notifiable Occurrences*.

6.13 CONDUCTING AN EMERGENCY EVACUATION OF PASSENGERS IF REQUIRED

Theory

In the event of an emergency that requires the evacuation of the train, the guard will direct other crew members to guide and direct passengers as per the railway's emergency procedures. Where emergency services personnel are in attendance the guard and other crew members will take direction from them.

A guard needs to be thoroughly familiar with these procedures and to have practised them through emergency evacuation drills that will be periodically organised by the railway's operator under its safety management system. Prior to allowing passengers to alight, the guard must ensure that the train controller is aware of the situation.

Practical

Under the supervision of your mentor, observe and practice how to conduct an emergency evacuation of a train as per your railway's emergency procedures.

Learn and demonstrate to your mentor how you can conduct an emergency evacuation according to the emergency procedures -- over the range of possible emergency situations that can occur on your railway.

6.14 ASSISTING THE DRIVER DURING EMERGENCY SITUATIONS, INCLUDING APPLICABLE EMERGENCY COMMUNICATION PROCEDURES

Theory

One of the duties of a guard is to assist the train driver and other train crew during a range of emergency situations. This includes the implementation of applicable emergency communication procedures.

Practical

Discuss with your mentor possible emergency situations that could occur during train journeys on your railway and the guard's role in these situations to assist the driver (and other train crew). In particular, clarify how assistance can be provided to the driver in the conduct of applicable communication procedures,

Under the supervision of your mentor, observe and practice how to assist the train driver during a range of simulated emergency scenarios as per your railway's emergency procedures. Learn and demonstrate to your mentor how you would assist the train driver in these various emergency scenarios.

6.15 COMPLETING ALL REQUIRED DOCUMENTATION AT THE END OF A JOURNEY

Theory

At the completion of a train journey and in conjunction with the driver, make sure that all necessary paperwork has been completed as per the rail operator's requirements. This may include:

- Time sheet,
- Log or record of train operations,
- Reports of operational problems with train and/or any defective equipment identified and details of any action taken or required,
- Reports of any safety incidents on the train as per rail operator's procedures and regulatory requirements, and
- Paper work related to the return of the guard's kit to store.

Practical

Under the supervision of your mentor, learn and demonstrate how to complete all required paperwork at the completion of a train journey as per the rail operator's requirements.

6.16 CONDUCTING TRAIN OPERATIONS - LEARNER'S NOTES

Insert your own notes here

7 SECURING A STATIONARY TRAIN

7.1 APPLYING THE BRAKE

Theory

If a train is to be stationary for a period of time, it is the guard's responsibility in conjunction with the train driver to secure the train as per the railway's standard operating procedures.

7.2 CONFIRMING THAT HAND BRAKE ON LEADING VEHICLE IS APPLIED IF LOCOMOTIVE IS DETACHED (WHERE REQUIRED)

Theory

Where it is a requirement of the railway, should the locomotive be detached from the train (e.g. changing locomotives or if a locomotive is running around at a terminating station), the guard must confirm that the hand brake on the leading vehicle has been applied, where required by the railway concerned. In the absence of a guard the shunt may be carried out by a qualified person.

The locomotive will usually have been uncoupled by the fireman or second person and it is their responsibility to actually apply the handbrake on the leading vehicle as part of that operation. It is the guard's duty however to confirm that the handbrake has actually been applied, if required by the railway concerned -- remembering that the guard is in charge of the train. During shunting operations, all required hand signals will be given by the guard or qualified person.

7.3 APPLYING THE HANDBRAKE ON THE BRAKE VAN AND OTHER VEHICLES IF REQUIRED

Theory

If a train is to remain stationary and unattended for an extended period of time (e.g. after service), the handbrake must be applied on the brake van and other vehicles on the train if required by the railway concerned and the handbrakes secured as per the railway's standard operating procedures.

7.4 LOCKING DOORS OF BRAKE VAN AND OTHER VEHICLES AS REQUIRED

Theory

Once all brakes have been applied, the guard must lock the doors of brake van and other vehicles as per the railway's standard operating procedures.

Practical

Under the supervision of your mentor, learn and demonstrate how to secure a stationary train in accordance with the railway's standard operating procedures and safety management plan.

7.5 SECURING A STATIONARY TRAIN - LEARNER'S NOTES

Insert your own notes here

8 ASSISTING IN THE SHUNTING OF A TRAIN

8.1 COORDINATING SHUNTING OPERATIONS

Theory

The key person in charge of the shunting of a train is usually the train's guard. If shunting is to be performed and the guard has not yet commenced duty, another person who is qualified to work as a guard must take charge.

Shunting operations must be coordinated strictly in accordance with the railway's standard operating procedures and safety management system.

When attaching vehicles to passenger vehicles which are already occupied by passengers, the movement must be brought to a stand no more than one metre from those vehicles and not coupled until passengers in the adjacent cars are warned of the intended movement.

8.2 GIVING HAND SIGNALS DIRECTLY TO THE DRIVER

Theory

A driver must not move a locomotive during shunting operations without a hand signal to do so from the person in charge of the shunting operations (i.e. usually the guard), even though fixed signals may be exhibited.

The guard must therefore give clear and explicit hand signals directly to the driver when coordinating shunting operations.

Loose shunting of vehicles by locomotive power (i.e. not attached to the locomotive by normal means) is prohibited but vehicles may be moved by hand when necessary. It is important to check and implement the railway's standard operating procedures and safeworking requirements for shunting operations. Hand signals should be preferably given to the driver rather than the fireman or second person.

When vehicles are shunted towards others, the person in charge of the shunting must give timely Hand Signals to the train driver so as to prevent striking the stationary vehicles with undue force.

8.3 COUPLING AND UNCOUPLING LOCOMOTIVES TO AND FROM TRAINS

Theory

The coupling and uncoupling of locomotives to and from trains and vehicles must be performed by the person in charge of the shunting during shunting operations (i.e. the guard) but at other times it is the responsibility of the fireman or second person.

8.4 CONFIRMING BRAKES ARE OPERATIONAL ON VEHICLES BEING SHUNTED

Theory

Ensuring brakes on vehicles being shunted are operational – note that it is permitted to shunt without air brakes being operational provided the shunter is aware of the extra stopping distance

During shunting operations, the guard may need to confirm that the brake is in operation on the vehicles being shunted -- in accordance with the railway's standard operating procedures. Note however in certain circumstances that shunting is permitted without air brakes being operational provided the shunter is aware and takes account of the extra stopping distance.

8.5 ENSURING THAT ALL REQUIRED SAFEWORKING EQUIPMENT IS CORRECTLY SET AND SECURED

Theory

In the course of shunting operations it is important that the guard ensures that all required safeworking equipment is correctly set and secured as per the railway's standard operating procedures and safety management system. This includes such actions as:

- During shunting.....
 - ensuring that vehicles are clear of any points, catch points or derails before they are operated and that they are in the correct position for an intended movement and are not fouling points before signalling the driver to move.
 - Where points require to be held during shunting and there is no other person to do so, the fireman or second person must assist to the extent necessary.

- After shunting.....
 - restoring and locking all points, hand locking bars and plunger pocks
 - securing all catch points, derails and scotch blocks
 - ensuring that all vehicles are clear of any running line and within the catch points or blocks
 - securing the hand brakes on the vehicles at each end of the siding to **‘ON’** and in accordance with the railway’s instructions

Practical

Under the supervision of your mentor, observe and practice how to coordinate shunting operations for your train as per your railway’s emergency procedures and safety management system. Learn and demonstrate to your mentor how you can coordinate the shunting operations typically required of guards on your railway.

**8.6 ASSISTING IN THE SHUNTING OF A TRAIN-
LEARNER’S NOTES**

Insert your own notes here

SEPARATE ATTACHMENT 1

GUARD

KNOWLEDGE

CHECKLIST

SEPARATE ATTACHMENT 2

GUARD

PERFORMANCE

CHECKLIST

SEPARATE ATTACHMENT 3

TRAIN EXAMINATION ADDENDUM

- 1. LESSON PLAN AND WORKBOOK**
- 2. KNOWLEDGE CHECKLIST**
- 3. MENTOR'S Q&A**
- 4. PERFORMANCE CHECKLIST**