

Diesel Locomotive Train Driver

Mentor's Q&A

(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.

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.

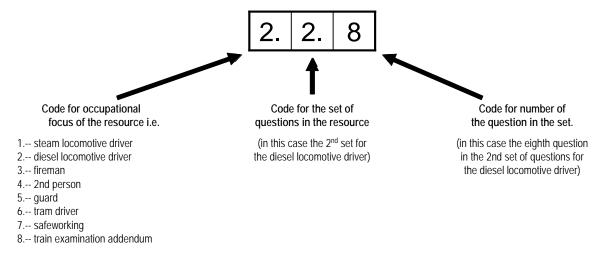
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NOTES

CODING SCHEME FOR THE ATHRA RESOURCES

The coding scheme for the ATHRA Resources is as follows:



CUSTOMISATION OF QUESTIONS AND ANSWERS IN THE *'MENTOR'S Q&A''*

As explained in the ATHRA Customisation Guidelines, this *Knowledge Checklist* and related *Mentors Q&A* are generic documents designed to be customized and adapted, if necessary, by local heritage railways to match their own railway configuration, equipment, procedures, safety management systems, etc. Questions in the booklet and related sample responses in the *Mentor's Q&A* may be modified by updating the content of the existing templates to incorporate appropriate information about the railway's own operating system, equipment, road, procedures, safety management system, etc. This may involve appropriate alteration to existing questions or the insertion of additional suitable questions.

To aid in the addition of questions, if needed, a blank row has been provided at the end of each set of questions in the generic checklist and Q&A. The following is a step by-step-process to incorporate any additional questions:

- 1. Using the mouse, select the blank row
- 2. In the 'TABLE' drop down menu at the top of the document select 'Insert'
- 3. Click on 'Insert rows below'
- 4. Repeat as many times as necessary until you have sufficient rows for the additional questions (including the original blank row in the generic document)
- 5. Insert the text for each of the additional questions
- 6. Insert the codes of the additional questions as per the coding scheme for the ATHRA training and assessment resources
- 7. Make sure there are matching questions and sample responses with the same code in both the *Knowledge Checklist* and the *Mentor's Q&A Booklet*

Question Set 2.1 Role and responsibilities of a train driver on a diesel locomotive

	QUESTION	SAMPLE RESPONSE
Q2.1.1	What are the key tasks performed by a diesel locomotive train driver?	 Signing on for locomotive duties and checking that the 2nd person has signed on, Checking roster, notice boards, operational instructions, locomotive availability and other information needed to work as a driver on a diesel locomotive Following safeworking system and standard operating procedures: Providing leadership and guidance to the second person and working collaboratively with the second person and other members of the train crew throughout a train journey Conducting all required equipment and system checks including oiling and greasing the locomotive Checking that the tool kit, fire extinguisher, first aid kit and other locomotive equipment is on the locomotive and is in good working order Recording, rectifying, isolating and/or tagging defects and deficiencies (as applicable) or reporting to relevant personnel Starting and operating the locomotive in conjunction with the second person Operating the locomotive controls on a diesel locomotive Moving the locomotive to required position and securing it prior to and after service Shunting rollingstock, including coupling and uncoupling the locomotive Coupling a diesel locomotive to other motive power units for multiple-unit operations, or when working with a steam locomotive Observing all fixed signals, point stand indicators, check points, track side signas and level crossings and adhering to all speed limits during a journey Calling all signs and signals to the second person and securing it procedures when approaching and traversing level crossings Giving and interpreting all audible, light, hand and other signals correctly Dealing with abnormal situations that may occur during train operations, including aplicable emergency communication and evacuation procedures Stabling and securing the locomotive

Q2.1.2	What is the relationship between the second person and the train driver?	 The driver and the second person are a team. The driver provides leadership and guidance to the second person. The second person must at all times cooperate with the driver and carry out his instructions when working on the locomotive.
Q2.1.3	Is the train driver responsible for observing fixed signals, point stand indicators, check points, track side signs and level crossings?	 Yes. The driver, assisted by the second person or observer, must always be on the alert to observe any fixed signals, point stand indicators, check points, track side signs and level crossings so that he may take the required action to ensure the safety of the train, its crew and passengers. All signs and signals must be called by either the driver or second person/observer and be acknowledged by the other person concerned.
Q2.1.4	Describe the key safeworking rules that apply to you as a train driver?	• Candidate's response should paraphrase the rail operator's safeworking rules as they apply to second persons on the railway concerned.
Q2.1.5	What are the potential consequences of not following safeworking rules and other regulations applicable to the driver's and second person's roles on your railway?	 A serious accident, possibly involving fatalities. Possible injury to self, colleagues and the public. Possible damage to own locomotive / train, other trains or railway facilities.
Q2.1.6	What is the location and purpose of instruction plates outlining headways and limits of authority?	• The candidate will describe, for their railway, the location and purpose of instruction plates outlining headways and limits of authority.
Q2.1.7	For your railway, describe the yard limits, commencement of yard limits and end of yard limits associated with train running.	• The candidate will describe the yard limits, commencement of yard limits and end of yard limits associated with train running in their railway.

O2.1.8	What are the diesel locomotive train driver's initial duties after signing on?	 Candidate should outline the rail operator's requirements and standard procedures for the initial duties of a diesel locomotive driver after signing on. This will probably include: checking roster, notice boards, operational instructions, locomotive availability and other information needed to operate a locomotive conducting all required pre-start checks recording, rectifying, isolating and/or tagging defects and deficiencies (as applicable) and/or reporting to relevant personnel oiling and greasing the locomotive starting the locomotive as per operating manual and standard procedures checking head and marker lights checking that the tool kit, fire extinguisher, first aid kit and other locomotive equipment is on the locomotive and is in good working order obtaining authority to move and position a diesel locomotive adherence to yard instructions and safeworking rules when preparing and positioning a locomotive for service operating the locomotive controls correctly as per standard operating procedures moving the locomotive to required position prior to service moving the locomotive to required position prior to service securing the locomotive in position
Q2.1.9	What action must you take if you find a defect during a shift as a driver of a diesel locomotive?	• The candidate should outline the rail operator's standard procedures for the action, recording and reporting that needs to be taken by a locomotive crew in the event of an identified defect.
Q2.1.10	What action must you take if you are involved in a safety incident during a shift as a driver of a diesel locomotive?	 Candidate should outline the rail operator's standard procedures for the action, recording and reporting that needs to be taken by a locomotive crew in the event of a safety incident. Ensure that the train is secured. If emergency services are in attendance observe the requirements of the senior combatant agency on site.

Q2.1.11	What action must you in the case of a limit of authority overrun during a shift as a driver of a diesel locomotive?	 Candidate should outline the rail operator's standard procedures for the action, recording and reporting that needs to be undertaken in the event of a limit of authority overrun. Take action to provide protection against any approaching train Work under the direction of train control to clear the section In all instances a written report must be furnished.
Q2.1.12	Where can you obtain a copy of the duties of a diesel locomotive driver, the safeworking rules and other key reference documents a train driver needs?	• Candidates should indicate the ways in which the rail operator concerned makes available to diesel locomotive drivers the safeworking rules and other key reference documents they need to understand and fulfil their roles and responsibilities.
Q2.1.13	Give five reasons why route knowledge is so important to a train driver	 Adjusting train operations to allow for rising and falling grades in specific sections of track Following safeworking procedures when approaching and traversing level crossings Adjusting train operations to comply with speed restrictions Adjusting train operations when approaching stations Remaining vigilant when approaching fixed signals, point stand indicators, check points, track side signs and level crossings Remaining vigilant when approaching sections where there are specific hazards (e.g. curves, bridges, etc.) Adjusting train operations when approaching stations Remaining vigilant when approaching sections where there are specific hazards (e.g. curves, bridges, etc.) Adjusting train operations when approaching stations and sidings that allow crossing with other trains (on single lines) Location of fuel stores to allow topping of locomotives during a journey

Q2.1.14	Give three examples of hazards that exist when working as a driver on a diesel locomotive.	 Dependent on the railway concerned, examples of possible responses include: Falling from heights Working in confined spaces Working under wires Chemicals Hot surfaces/burns Moving work platform Moving parts in engine rooms Oil spills on floors Dehydration and fatigue Noise Working with high and low voltage electric circuits and electrical equipment within cabinets Broken hand rails
Q2.1.15	What personal protective equipment (PPE) must be used by diesel locomotive drivers when carrying out their duties and functions?	• Candidate will describe the personal protective equipment (PPE) that must be used by diesel locomotive drivers when carrying out their duties and functions as per the safety management plan and standard operating procedures of the rail operator concerned.
Q2.1.16	Give two examples of risk management strategies to control hazards when working as a driver on a diesel locomotive.	 Dependent on the railway concerned, examples of possible responses include: Taking required precautions when using oil as the locomotive fuel Ensuring public safety Using personal protective equipment (PPE) Undertaking the necessary electrical / mechanical equipment isolations before opening cabinets or entering engine rooms Using fire extinguishers and water hoses to control fire emergencies Following the railway's established risk management procedures
Q2.1.17	Blank for additional question	•

Question Set 2.2 Preparing and starting a diesel locomotive

QUESTION		SAMPLE RESPONSE
Q2.2.1	What are the principal components of the diesel locomotive(s) on which you will be working? What is the purpose of each?	 Candidate will describe the principal components of the diesel locomotive(s) and their purpose as described in the relevant manual(s) provided by the rail operator. A sample indicative list for a mechanical transmission loco is provided in the 2.2.1 of the 'Diesel Loco Drivers Performance Checklist' This would need to be modified and customised to match the type(s) of diesel locomotive and the railway concerned
Q2.2.2	What tasks do drivers complete before they commence the pre-start checks on the locomotive?	 The candidate will describe the standard operating procedures for the locomotive and rail operator concerned for the tasks to be undertaken prior to conducting prestart checks. The driver will usually have checked the roster and interpreted the day's train activities. They will also have confirmed the allocation of locomotives and located the locomotive to be checked and prepared in the yard.
Q2.2.3	What pre-start checks will be carried out by the driver	 Candidate will describe the processes involved in carrying out the pre-start checks required under the standard operating procedures of the rail operator. These will typically include: setting the locomotive in position for examination and lubrication as per standard operating procedures, conducting a visual examination of the locomotive using the railway's checklist for the type and class of diesel locomotive concerned, confirming with the second person that the levels of all consumable liquids on the locomotive have been appropriately topped up, including the levels of fuel and water, and checking that the head and marker lights are functioning correctly preparing and checking the locomotive confirming with the second person the operational readiness of the tool kit. fire extinguisher. first aid kit. communication equipment.
Q2.2.4	What is involved in switching on the batteries and control circuits?	• The candidate will describe the standard operating procedures for switching on the batteries and control circuits for the locomotive and rail operator concerned.

Q2.2.5	What are the procedures for pumping up fuel with the priming pump?	• The candidate will describe the standard operating procedures for pumping up fuel for that locomotive and the rail operator concerned.
Q2.2.6	What are the procedures for starting the diesel engine on the locomotive?	• The candidate will describe the standard operating procedures for starting the diesel engine on the locomotive and rail operator concerned.
Q2.2.7	When might it be necessary for the driver to pre-heat the engine when starting the engine on a diesel locomotive?	When the engine is cold.
Q2.2.8	What are the procedures for switching on the monitoring panel and checking that all systems on the diesel locomotive are operating correctly?	• The candidate will describe the standard operating procedures for switching on the monitoring panel and checking that all systems (in conjunction with the second person).
Q2.2.9	What should the driver do if indicators or other checks show performance of the locomotive is outside of specifications ?	 The driver will make appropriate adjustments or take other action as per the railway's standard operating procedures
Q2.2.10	Blank for additional question	•

Question Set 2.3 Moving a diesel locomotive

	QUESTION	SAMPLE RESPONSE
Q2.3.1	Describe the process involved in obtaining authority to move and position a diesel locomotive?	• Candidate will describe the processes involved in obtaining authority to move and position a diesel locomotive as per the standard operating procedures of the railway operator.
Q2.3.2	How should a diesel locomotive's controls be operated?	 The candidate will describe the rail operator's standard operating procedures for operating the controls on the type and class of diesel locomotive concerned. The controls must be operated smoothly and carefully.

Q2.3.3	Why is it important to remain vigilant when moving a diesel locomotive in a yard?	•	 To identify any situation that may potentially be unsafe or cause a problem in the safe and efficient running of the locomotive, including: problems on the line ahead of the locomotive in the yard, problems on the locomotive itself or problems in the yard environment around the locomotive. It is the driver's special duty in conjunction with the second person to regularly scan the locomotive's operating environment in the yard to check that there are no problems either occurring then, or which may be developing.
Q2.3.4	Describe the process involved in moving a diesel locomotive to its required position in the yard?	•	Candidate will describe the sequence of processes involved in moving a diesel locomotive to its required position in the yard as per the standard operating procedures of the railway operator for the type and class of diesel locomotive concerned. This includes the operation of the locomotive, stopping it in the right position and securing it when in position.
Q2.3.5	Blank for additional question	•	

Question Set 2.4 Conducting train operations

	QUESTION	SAMPLE RESPONSE
Q2.4.1	How does the second person assist the diesel locomotive driver during a train journey?	 The role of the second person is to assist the driver to operate and regularly check the performance of the locomotive and its various components and pieces of equipment,
		• The second person assists in whatever corrective action may be required. The exact nature of the checks that need to be made will be dependent on the type of diesel locomotive concerned and the standard operating procedures of the rail operator,
		 The second person must remain attentive to the driver's instructions and respond to them promptly when given,
		• The second person must remain vigilant and check the road ahead and look behind to check for any signals, level crossings or abnormal situations and alert the driver as required, and
		• The second person will assist the driver during any emergency or abnormal situation that may arise.

Q2.4.2	What is the role of a train driver concerning fixed signals, point stand indicators, check points, signs and level crossings?	 The driver and the second person work in partnership to observe the fixed signals, point stand indicators, check points, track side signs and level crossings and to scrutinise for any abnormal situation that might occur at a level crossing. The train driver must assess the situations at signals fixed signals, point stand indicators, check points, track side signs and level crossings with the assistance of the second person and take all required action as per the railway's safeworking rules and standard operating procedures. All signs and signals must be called by either the driver
		or second person/observer and be acknowledged by the other person concerned.
		• All signs and signals involved in stopping and starting a train at a platform must be observed including the need to follow the guard's signal.
Q2.4.3	Describe the processes involved in interpreting and applying 'authority' to move a train'?	 Candidate will describe the processes involved in interpreting and applying 'authority' to move a train as per the safety management system and standard operating procedures of the railway operator concerned.
Q2.4.4	Describe the processes involved in interpreting and applying a 'Cancellation of authority to move a train'?	• Candidate will describe the processes involved in interpreting and applying a 'Cancellation of authority to move a train' as per the safety management system and standard operating procedures of the railway operator concerned.
Q2.4.5	Describe the standard operating procedures and safeworking rules that need to be followed by drivers when operating in the vicinity of worksites on the track?	 Candidate will describe the describe the standard operating procedures and safeworking rules that need to be followed by drivers when operating in the vicinity of worksites on the track as per the safety management system of the railway operator concerned.

Q2.4.6	How do drivers work with second persons, guards and shunters when coupling a locomotive to rollingstock?	 Candidate will describe the describe the standard operating procedures and safeworking rules that need to be followed by drivers when working with second persons, guards and shunters during the coupling of a locomotive to rollingstock. For example: When coupling a locomotive to rollingstock to form a train, the driver will initially position the locomotive a short distance from the leading vehicle of the train. Before coupling the driver will make sure that the main air reservoir is fully charged. The second person, guard or shunter will stand outside of the danger zone and signal the driver to ease up to the leading vehicle. The driver will slowly move the locomotive's brake. The second person, guard or shunter then couples the locomotive to the leading vehicle as per the railway's standard procedures. After coupling to the train, the driver will lap the brake valve handle until the air hoses have been coupled and the brake cocks opened. The driver will then shift the brake valve handle to the full release position to charge the brake pipe. The brake valve is then returned to the running position in sufficient time to prevent an overcharge of the brake pipe. It is the driver's responsibility to make sure that the locomotive is correctly coupled to the train and that the brake pipe cocks are in the open position between the locomotive and the leading vehicle of the train.
Q2.4.7	Describe the standard operating procedures and safeworking rules that need to be followed by drivers when shunting rollingstock to form a train?	 Candidate will describe the describe the standard operating procedures and safeworking rules that need to be followed by drivers when shunting rollingstock to form a train as per the safety management system of the railway operator concerned. This includes a description and demonstrated understanding of all shunting signals that may be given by the second person, guard, shunter or other persons assisting in the shunting operations

Q2.4.8	How should a driver handle a train?	 The handling of the train requires detailed route knowledge including the location of grades, stations, sidings, crossings, fixed lineside signals, curves, speed limits, and other potential hazards that may affect the running of the train. Consideration of these route features and potential hazards enables the driver to anticipate the running requirements of the train and adjust the handling of the train accordingly. Handling of the train should also ensure that the performance of the locomotive is optimised for both safety and economy. Candidate will also describe the standard operating procedures for the railway and locomotive concerned for the various grades and conditions on the routes concerned.
Q2.4.9	During a train journey, what is the role of a train driver concerning fixed signals, point stand indicators, check points, signs and level crossings?	 The driver and the second person work in partnership to observe the signals and to scrutinise for any abnormal situation that might occur at a level crossing. The second person assists the driver by double checking the situations at fixed signals, point stand indicators, check points, track side signs and level crossings and aiding the driver in taking all required action as per safeworking rules and standard operating procedures. All signs and signals must be called by either the driver or second person/observer and be acknowledged by the other person concerned
Q2.4.10	Why is it important for the train driver to remain vigilant at all times during a train journey?	 During a train journey it is vital that the train driver and the second person remain 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, on the locomotive itself or on the train being drawn. In this regard it is the second person's special duty to regularly look back at the train being drawn to check that there are no problems occurring and to advise the train driver accordingly.

Q2.4.11.	What are the responsibilities of a train driver concerning speed limits along a train's route?	 Trains must comply with the prescribed speed limits both within the yard and throughout a train journey. It is important that the train driver knows all of the prescribed speed limits along a train route and in the yard He must observe all trackside speed signs and take appropriate action to vary the train's speed to comply with the limits in the current and approaching sections Maximum speed is the maximum of the line speed or class of rollingstock not just track speed. In this regard, the driver needs to know the limits on any
Q2.4.12	Describe the precautions a train driver should follow when approaching and stopping at stations along a train's route?	 rollingstock attached to the train. The train driver must anticipate a scheduled stop at a station and take appropriate action for a steady deceleration of the train in sufficient time for a gradual stop, The train driver must approach the stop smoothly and steadily with appropriate deceleration and braking that allows the train to come to a gentle stop on the required stopping position, and The stop should be achieved without sudden deceleration or jerks arising from sudden braking.

Q2.4.13	What are five examples of abnormal situations that may occur during a train journey and what is the role of the train driver in responding to these abnormal situations?	 Candidate will describe the action to be taken by a train driver in the event of five different types of abnormal situation as per the rail operator's emergency and standard operating procedures. This may include: Working collaboratively with the train crew and passengers, (<i>Note: the <u>quard</u> is in charge of a train and in an emergency, drivers work under that person's directive</i>), stopping and securing the train with the assistance of the second person and the guard , and working with the train crew in undertaking the required emergency procedures including conducting emergency communication and assisting passengers and train crew in an orderly evacuation of the train as per the rail operator's emergency procedures. Examples of the types of abnormal situations that could be included are: 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 a passenger initiated alarm a classion a chemical spill a tire and explosion on the locomotive or train a bomb threat a head or marker light or whistle failure
Q2.4.14	What action should be taken in the event of the failure of a headlight or a whistle?	• Candidate will describe the action to be taken by a train driver in the event of the failure of a headlight or a whistle on the locomotive as per the rail operator's emergency and standard operating procedures.
Q2.4.15	Who is in charge of a site when an emergency occurs on a train?	• When the Emergency Services are in attendance the senior combatant agency (usually the Police) are in charge and all person must work under their direction

Q2.4.16	Why is it important that a train driver can give and interpret hand signals?	• Drivers work closely with other members of the train crew and other 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).
		• Drivers must be proficient in giving these signals as per the railway's standard procedures. They must also be able to recognise and correctly interpret signals given by others.
		• The locomotive crew watch for and observe the guard's hand signal when arriving at a platform. Where the platform is on the fireman's side the fireman will relay the hand signals to the Driver.
		Candidate will describe the signals used on the railway concerned.
Q2.4.17	Describe the method of safe working on your railway and what actions you as diesel locomotive driver need to take in relation to the authority to enter a section	• The candidate will describe the method of safe working on the railway concerned and will specifically describe the action a diesel locomotive driver must take in relation to the authority to enter a section (for that railway).
Q2.4.18	Blank for additional question	•

Question Set 2.5 Shutting down and stabling a diesel locomotive

QUESTION		SAMPLE RESPONSE
Q2.5.1	Describe the procedures for moving a diesel locomotive to its stabling position in the yard?	• Candidate will describe the processes involved in moving a locomotive to its stabling position in the yard as per the standard operating procedures of the railway operator concerned.
Q2.5.2	Describe the post-operational checks you must conduct for the diesel locomotive after service.	• Candidate will describe the all of the required post- operational checks that need to be undertaken in conjunction with the second person as per the railway operator's checklist and standard operating procedures for the type of diesel locomotive concerned.

Q2.5.3	What action should be taken if faults or defects are identified during post-operational checks of the diesel locomotive and its equipment?	 The standard operating procedures for taking action on identified defects and deficiencies may vary from one railway operator to another. The candidate will describe the standard operating procedures for the railway operator concerned. At the least, the defects and deficiencies must be recorded and reported. Depending on the railway operator's policies and procedures, the driver may <u>also</u> be required to rectify the defects and deficiencies, if possible, Isolate them, and/or tag them.
Q2.5.4	How is the diesel locomotive secured in its stabling position?	Candidate will describe the standard operating procedures of the railway operator for securing the type of diesel locomotive concerned.
Q2.5.5	What other tasks might a locomotive driver undertake after securing the diesel locomotive?	 Check that the locomotive driver's equipment kit (e.g. tools and other locomotive equipment) is complete and in good operational condition, If there are any defective or broken components or if some parts of the kit or its equipment are missing, take appropriate action to report and rectify the problem, and Make sure that the equipment kit is properly stowed and/or returned to store and is ready for use when the locomotive is next prepared for service
Q3.5.6	What paperwork must be completed after the locomotive is stabled and secured?	 Candidate will describe the all of the paperwork that must be completed as per the railway operator's checklist and standard operating procedures. This may typically include: time sheet log or record of locomotive operations reports of operational problems with the locomotive and/or any defective equipment identified and details of any action taken or required reports of any safety incidents as per standard procedures and regulatory requirements paperwork related to the return of equipment to store.
Q3.5.7	Blank for additional question	•