

Second Person

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.

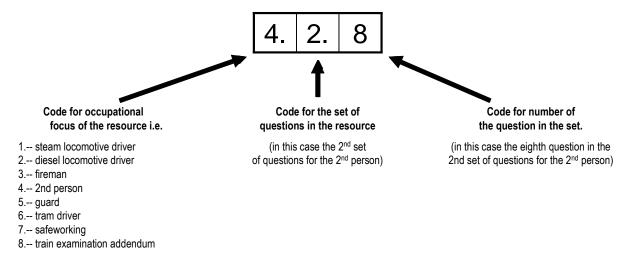
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NOTES

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, the *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 4.1 Role and responsibilities of a second person on a diesel locomotive

	QUESTION	SAMPLE RESPONSE
Q4.1.1	What are the key tasks performed by a second person on a diesel locomotive?	 Signing on for locomotive duties. Checking roster, notice boards, operational instructions, locomotive availability and other information needed to work as a 2nd person on a diesel locomotive. Working under the direction of and collaboratively with the train driver, including responding to the driver's instructions, assisting in the preparation and checking of the locomotive data logger system (where fitted), assisting the driver during a journey by checking the performance of the locomotive and taking any required action, assisting the driver when approaching and traversing fixed signals, point stand indicators, check points, track side signs and level crossings, calling all signs and signals to the driver and receiving acknowledgement from the driver (or vice versa), assisting the driver during the arrival at and departure from stations, assisting the driver in the identification of faults and defects and associated trouble-shooting activities, and assisting the driver in the response to abnormal situations that may arise during a train journey. Checking the level of fuel and water on the locomotive prior to service. Carrying out other pre-operational visual inspections and checks that are the responsibility of a 2nd person. Checking that the tool kit, fire extinguisher, first aid kit and other locomotive equipment is on the loco prior to
		 Checking the level of fuel and water on the locomotive prior to service. Carrying out other pre-operational visual inspections and checks that are the responsibility of a 2nd person.
		and checks that are the responsibility of a 2nd person.Checking that the tool kit, fire extinguisher, first aid kit
		 and other locomotive equipment is on the loco prior to service, is complete and is in good working order. Taking on fuel, coolant and other fluids.
		Remaining vigilant throughout a journey, including looking back to train.
		Stopping and securing a train in the event of an emergency, including the evacuation of the train.
		After locomotive service, confirming, it is secured prior to post-operational cleaning and checking operations.
		Conducting cleaning operations.
		Conducting post-operational visual inspections and other checks of locomotive and associated equipment.

Q4.1.1	What are the key tasks performed by a second person on a diesel locomotive? (continued)	 Completing all required lubrication and greasing tasks. Checking that tool kit, fire extinguisher, first aid kit and other locomotive equipment is in operational condition and is correctly stowed. Checking and confirming that locomotive and associated equipment has been restored to required post-operational condition (including communication equipment) Completing required post-operational documents and reporting any faults or defects for appropriate action.
Q4.1.2	What is the relationship between the second person and the driver?	 The driver and the second person are a team. The second person must at all times cooperate with the driver and carry out his/her instructions when working on the locomotive.
Q4.1.3	Is the second person responsible for observing fixed trackside signals, point stand indicators, check points, trackside signs and level crossings?	 Yes. He must always be on the alert to observe any fixed signals, point stand indicators, check points, trackside signs and level crossings and inform the driver so that he may take the required action to ensure the safety of the train. The second person must also confirm all such sightings with the driver. All signs and signals must be called by either the driver or second person and be acknowledged by the other person concerned.
Q4.1.4	Is the second person responsible for fault finding on the locomotive?	The second person's role is to assist the locomotive driver in the identification of faults and defects and associated trouble-shooting activities.
Q4.1.5	Who directs the second person's work on the locomotive?	The locomotive driver.
Q4.1.6	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.
Q4.1.7	Describe the key safeworking rules that apply to you as a second person?	Candidate's response should paraphrase the rail operator's safeworking rules as they apply to the role of second persons on the railway concerned.

Q4.1.8	What are the potential consequences of not following safeworking rules and other regulations applicable to the second person's role on your railway?	 A serious accident possibly involving fatalities Possible injury to self, colleagues or the public. Possible damage to locomotive, rollingstock or railway facilities.
Q4.1.9	What are the second person's initial duties after signing on?	 The candidate will describe the initial duties of a second person after signing on and related standard operating procedures of the rail operator for the steam locomotive concerned. For example: checking roster, notice boards, operational instructions, locomotive availability and other information needed to operate a locomotive checking any notices posted which may concern the tracks on which the person is booked to work. obtaining the tool kit, stores and proceeding to the locomotive. checking the level of fuel and water on the locomotive prior to service carrying out other pre-operational visual inspections and checks that are the responsibility of a second person for the locomotive concerned checking the operational readiness of the tool kit, fire extinguisher, first aid kit and communication equipment
Q4.1.10	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.
Q4.1.11	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.
Q4.1.12	What action must you take if you find a defect during a shift as a second person on a diesel locomotive?	 Advise the driver immediately 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.

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Q4.1.13	What action must you take if you are involved in a safety incident during a shift as a second person on 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. Work under the direction of the driver to ensure that the train is secured. If emergency services are in attendance observe the requirements of the senior combatant agency on site.
Q4.1.14	What action must you in the case of a limit of authority overrun during a shift as a second person on 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. Immediately it is recognised that a limit of authority overrun has occurred, draw this to the driver's attention and ensure that the movement is brought to an immediate stop. 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.
Q4.1.15	What are the second person's duties during stabling operations?	 Candidate should outline the rail operator's requirements and standard procedures for a second person to ensure that a locomotive is in its required post-operational condition and is properly secured prior to post-operational cleaning and checking operations. For example: conducting cleaning operations conducting post-operational visual inspections and other checks of locomotive and associated equipment completing all required lubrication and greasing tasks topping up fluid levels as per standard procedures checking that tool kit, fire extinguisher, first aid kit and other locomotive equipment is in operational condition and is correctly stowed checking and confirming that locomotive and associated equipment has been restored to required post-operational condition completing required post-operational documents and reporting any faults or defects for appropriate action

Q4.1.16	Where can you obtain a copy of the duties of a second person, the safeworking rules applicable to second person and other key reference documents a second person needs on your railway?	Candidate should indicate the ways in which the rail operator concerned makes available second persons the safeworking rules and other key reference documents they need to understand and fulfil their roles and responsibilities.
Q4.1.17	Give three examples of hazards that exist when working as a second person 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 Oil spills on floors Dehydration and fatigue Noise Working with high and low voltage electric circuits and electrical equipment within cabinets Broken hand rails
Q4.1.18	What personal protective equipment (PPE) must be used by second persons when carrying out their duties and functions?	Candidate will describe the personal protective equipment (PPE) that must be used by second persons when carrying out their duties and functions as per the safety management plan and standard operating procedures of the rail operator concerned.
Q4.1.19	Give two examples of risk management strategies to control hazards when working as a second person 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 (e.g. checking when the public is in the vicinity of loco before using locomotive's equipment, etc.) Using personal protective equipment (PPE) Using fire extinguishers and water hoses to control fire emergencies Following the railway's established risk management procedures
Q4.1.20	What are the procedures for handing over a diesel locomotive to a replacement crew?	Candidate will describe the procedures for handing over a diesel locomotive to a replacement crew as per the standard operating procedures of the rail operator. concerned
Q4.1.21	Blank for additional question	•

Question Set 4.2 Conducting pre-operational checks on a diesel locomotive

QUESTION		SAMPLE RESPONSE
Q4.2.1	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 4.2.1 of the '2nd Person's Performance Checklist' This would need to be modified and customised to match the type(s) of diesel locomotive and the railway concerned
Q4.2.2	What are the initial tasks completed by the second person when commencing a shift?	The candidate will describe the standard operating procedures of rail operator concerned for the initial tasks to be undertaken by a second person when commencing a shift. This will usually include: checking the roster, checking the notices, interpreting the day's train activities, confirming the allocation of locomotives, locating the locomotive to be checked, and prepared in the yard.
Q4.2.3	What are the principal parts of a Westinghouse Brake System and what is their purpose? (Where it is used on the locomotives and rollingstock of the railway concerned)	Where applicable, the candidate will describe the railway's checklist of the principal parts of the Westinghouse Brake System and their purpose.
Q4.2.4	What are the principal parts of a Vacuum Brake System and what is their purpose? (Where it is used on the locomotives and rollingstock of the railway concerned)	Where applicable, the candidate will describe the railway's checklist of the principal parts of the Vacuum Brake System and their purpose.

Q4.2.5	Describe the visual inspection and pre-operational checks you must conduct in conjunction with the driver for the locomotives on which you will be working.	Candidate will describe the processes involved in assisting the driver to carry out the visual inspection and pre-operational checks required under the standard operating procedures of the rail operator for the type of diesel locomotive concerned. Dependent on the type of locomotive, these will typically include: checking and reporting any evidence of damage to the locomotive, checking and topping up the level of fuel, checking and topping up the level of coolant and possibly other fluids, checking that the sandboxes are full, checking that the sandboxes are full, checking that the cocks in the various pipes are closed, e.g. engine speed control pipe, brake control pipe, ,ain reservoir equalising pipe and brake pipe, checking the oil levels, e.g. in the engine sump, turbo-blower sumps, compressor sumps, auxiliary pumps etc. and topping up if necessary, closing the battery isolating switch and main lighting switch, switching on all required circuit breakers, checking head and marker lights assisting in the preparation and checking of the locomotive data logger system (where fitted) checking the operational readiness of the tool kit, fire extinguisher, first aid kit, and communication equipment.
Q4.2.6	What action should be taken by the driver and second person if defects or deficiencies are identified during checks or during operations?	 The standard operating procedures for taking action on identified defects and deficiencies may vary from one rail operator to another. The candidate will describe the standard operating procedures for the rail operator concerned. At the least, the defects and deficiencies must be recorded and reported. Depending on the rail operator's policies and procedures, the driver and second person may also be required to rectify the defects and deficiencies, isolate them, and/or tag them.
Q4.2.7	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.

Q4.2.8	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 the locomotive and rail operator concerned.
Q4.2.9	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.
Q4.2.10	When might it be necessary for the engine to be pre-heated when starting the engine on a diesel locomotive?	When the engine is cold.
Q4.2.11	What should the driver do if indicators or other checks show performance of the locomotive is outside of specifications?	The driver, with the assistance of the second person, will make appropriate adjustments or take other action as per the railway's standard operating procedures.
Q4.2.12	Blank for additional question	•

Question Set 4.3 Assisting the driver during a train journey

QUESTION		SAMPLE RESPONSE	
	What is the role of the second person 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 these checks will be dependent on the type of diesel locomotive concerned and the standard operating procedures of the rail operator, 	
Q4.3.1		 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 	е
		The second person will assist the driver during any emergency or abnormal situation that may arise.	

Q4.3.2	What action should the second person take concerning fuel, coolant and other fluids?	 During a train journey, it may be necessary to periodically take on additional fuel, coolant, water and any other replaceable fluids required for the locomotive concerned. The second person regularly checks the levels of the fuel, coolant, oil, and other fluids. The second person may need to periodically top up the levels of fuel, coolant, oil, and other fluids. This involves working with the driver to move the locomotive to the appropriate topping up locations and following the required standard procedures and rail safety requirements during the topping up activities.
Q4.3.3	What is the role of a second person concerning fixed signals, point stand indicators, check points, trackside 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 second person assists the driver by double checking the situations at fixed signals, point stand indicators, check points, trackside 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 the second person and be acknowledged by the other person concerned.
Q4.3.4	Why is it important for the second person to remain vigilant at all times during a train journey?	 During a train journey it is vital that the second person 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, 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.
Q4.3.5	What is the role of a second person concerning speed limits along a train's route?	 Trains must comply with the prescribed speed limits both within the yard and during a train journey. It is important that the second person is aware of all of the prescribed speed limits along a train route and in the yard and draws the driver's attention to any need to vary the train's speed to comply with the limits in the current or approaching section. 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 rollingstock attached to the train

Q4.3.6	Describe the precautions and procedures a second person should follow when approaching and stopping at stations along a train's route?	 Anticipating a scheduled stop at a station and assisting the train driver in action that enables a steady deceleration in sufficient time for a gradual stop, Approaching 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.
Q4.3.7	What is the second person's role during a locomotive run around at a terminus or siding?	 Assisting the driver during the uncoupling of the locomotive from the train vehicles, Adjusting relevant safeworking apparatus and resetting it during shunting operations as per safeworking rules and procedures, Communicating effectively with to the driver during coupling and uncoupling operations, including giving clear hand signals and/or using train radio or handheld WB radios as per railway procedures, Being alert during the shunting operations and advising the driver of any hazards and any required operational adjustments, and Assisting the driver during the re-coupling of the locomotive to the train vehicles,

		Candidate will describe the action to be taken by a second person in the event of five different types of abnormal situation as per the rail operator's emergency and standard operating procedures.
		This may include assisting the driver in stopping and securing the train, undertaking required emergency procedures including communication, and assisting passengers and train crew in an orderly evacuation of the train as per the rail operator's emergency procedures.
Q4.3.8	What are five examples of abnormal situations that may occur during a train journey and what is the role of the second person in responding to these abnormal situations?	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 false alarm a derailment a collision a chemical spill a fire and explosion on the locomotive or train a bomb threat head or marker light failure
Q4.3.9	Describe the method of safe working on your railway and what actions you as second person 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 second person must take in relation to the authority to enter a section (for that railway).
Q4.3.10	Blank for additional question	•

Question Set 4.4 Cleaning and checking the locomotive after operations

QUESTION		SAMPLE RESPONSE
Q4.4.1	How do you secure the locomotive prior to post-operational cleaning and checking?	Have the driver move the locomotive to the cleaning, checking and servicing area and apply the brakes.

Q4.4.2	Why is it important to remove all grime and grease and to clean the locomotive's paintwork and brassware?	 Maintains the life and serviceability of the locomotive. Keeps the locomotive attractive and presentable which important to maintain the interest and ongoing patronage of tourists and other passengers.
Q4.4.3	Describe the post-operational checks you must conduct for a diesel locomotive after service.	Candidate will describe the all of the required post- operational checks that need to be undertaken as per the railway operator's checklist and standard procedures for the type of diesel locomotive concerned.
Q4.4.4	What should you do if you find a defect or other problem during a post-operational check of a locomotive after service?	 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 rail operator concerned. At the least, the defects and deficiencies must be recorded and reported. Depending on the rail operator's policies and procedures, the second person may also be required to assist the driver to rectify the defects and deficiencies, if possible, isolate them, and/or tag them.
Q4.4.5	What post operational lubrication and greasing tasks need to be completed as part of stabling activities?	Candidate should outline the rail operator's requirements and checklist for the lubrication and greasing of locomotives after service.
Q4.4.6	What action should you take concerning the fluid levels when stabling a locomotive?	 Before securing a diesel locomotive after service, you should assist the driver to stop the locomotive, apply the hand brake and check the levels of fuel, coolant, water and other fluids. If necessary, top up the level of fuel, coolant, water and other fluids to ensure that the locomotive will be ready when next needed.
Q4.4.7	What other tasks might a second person undertake when securing of a steam locomotive after service?	 Check the tool kit, fire extinguisher, first aid kit and other locomotive equipment to make such they are complete and are in good operational condition. If there are any defective or broken components or if some parts of the kits or equipment are missing, take appropriate action to report and rectify the problem. Make sure that the tool kit, fire extinguisher, first aid kit and other locomotive equipment is properly stowed and/or returned to store and is ready for use when the locomotive is next prepared for service.

Q4.4.8	How should the locomotive and associated equipment be left after service ?	Candidate should outline the rail operator's requirements and standard procedures for a second person to ensure that a locomotive is in its required post-operational condition and is properly secured.
Q4.4.9	What paperwork must be completed after cleaning and shutting down a diesel locomotive after service?	 Candidate should outline the rail operator's requirements and standard procedures for the paperwork that needs to be completed by a 2nd person after cleaning and shutting down the boiler on a steam locomotive after service. This may include time sheet, log or record of locomotive operations, reports of operational problems with boiler operation and/or any defective equipment identified and details of any action taken or required, reports of any safety incidents as per rail operator's procedures and regulatory requirements, and paper work related to the return of kit to store.
Q4.4.10	Blank for additional question	•