Customisation Guidelines

(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 and tramway 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 and tramway operators to match the specific context of their own railway or tramway, e.g. types of locomotives/trams, rollingstock and associated equipment, the track layout and infrastructure, the local standard procedures and rules, the safety management and safeworking systems, the railway or tramway organisational structure, and the roles and functions of personnel in the railway or tramway, etc.

Railway and tramway 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 and tramway operators.

It is intended that heritage railway and tramway 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.

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1 CUSTOMISATION OVERVIEW

Each heritage railway / tramway operator in Australia must ensure that all of its personnel (including permanent staff and volunteers) have the necessary skills and knowledge to carry out their role and to contribute to the safe, efficient and effective operation of the services provided by that operator. The components of the skills and knowledge required for the various heritage rail occupations are summarised in Figure 1 on the following page. All of the components are necessary for the personnel to work safely, efficiently and effectively in their role on specific equipment at a specific railway or tramway.

At one level, persons in each occupation must understand and be able to apply a range of generic skills and knowledge required by all rail occupations. For example: the basic principles of general safety, safeworking, rail safety, safety management systems, environmental protection, customer service, etc.

At another level, persons in each occupation must also understand and be able to demonstrate a set of skills and knowledge common to the heritage rail occupation concerned. For example: all fireman must be able to prepare a steam locomotive for service, carry out required pre-operational (light up) checks, light the fire on the locomotive, undertake further pre-running checks, manage the fire during a journey, assist the driver during the journey and assist the driver in the cleaning, checking and stabling of the locomotive after service

At the local level (i.e. within a ***particular*** heritage railway or tramway), persons in each occupation must also understand and be able to demonstrate additional aspects of these skills and knowledge specific to that railway or tramway. For example, drivers on a specific railway must understand the features and operating requirements of the actual steam locomotive(s) on which they will be working. They must be able to recognise the equipment, controls and components of the locomotives concerned, know and describe their purpose, their principal parts, their functions and operation, as well as the potential defects that could occur on the locomotive(s) and their components and related action required to isolate, repair and/or report the defects as per standard operating procedures. They must be completely familiar with the features, hazards and operating requirements of the specific routes and track of that railway. They must also understand and be able to apply the specific standard operating procedures, rail safety requirements, safety management system, rule book and general instructions of the railway concerned.

Figure 1
Components of skills and knowledge needed by persons in tourist and heritage rail occupations

Generic aspects of skills & knowledge required for <u>all occupations</u> including heritage rail occupations,	**Aspects of skills and knowledge <u>common to particular</u> rail occupations across all tourist and heritage railways and tramways** *(As covered in the ATHRA generic resources)*	**Aspects of skills and knowledge that may <u>vary</u> across different tourist and heritage railways or tramways** *(Requiring customisation of resources by specific railways and tramways)*
For example • *safety management* • *environmental protection*	*For example, all fireman must be able to:* • *prepare a steam loco* • *carry out required pre-operational (light up) checks* • *light the fire on the loco* • *undertake further pre-running checks* • *manage the fire during a journey* • *assist the driver during the journey* • *assist the driver in the cleaning, checking and stabling of the loco*	*For example:* • *Features, components and operating requirements of specific locomotives, trams and rollingstock used on a particular railway or tramway* • *Features, hazards and operating requirements of the specific routes and track of a particular railway or tramway* • *Standard operating procedures, safety management system, rule book and general instructions of a particular railway or tramway*

In other words, while the training and assessment of personnel in heritage railways and tramways across Australia has many generic and common requirements and elements, the unique nature of each of the railways and tramways in terms of equipment, tracks, hazards and procedures means that there must always be some customisation of training and assessment to reflect and accommodate these differences.

Even where a railway or tramway is operating the same class of locomotive or tram, it is often the case that modifications and repairs have been made over the years which often mean that drivers or other personnel need to have a special understanding of the differences involved and their implications for the operation of the locomotive or tram over the unique track of that railway or tramway operator.

Given this commonality and variability in skill and knowledge requirements for personnel across the various tourist and heritage rail and tram operators, ATHRA has developed a set of guidance resources aimed at assisting its members to update and develop their training arrangements in ways that :

- Ensure a **consistency** in approach to the training and assessment of personnel within the railways and tramways operated by its members,
- Ensure that **compliance** is achieved with new safety management and other regulatory requirements,
- Accommodate the **differences** in skill and knowledge requirements related to differences in equipment, track and operational circumstances, and
- Provide a **readily accessible and affordable** set of flexible materials that can be downloaded and used by members either:
  - as a tool and guide when reviewing and updating ***existing*** training and assessment arrangements,
  - as training materials that can be used as a ***starting point*** for new resources with appropriate editing and modification to customise them for local requirements and circumstances, or
  - as training materials that can be used ***as is***, but with the local requirements and circumstances being accommodated by access and reference to the locally published standard procedures, manuals, rulebook, checklists, '*equipment fact sheets'*, etc. of the railway or tramway concerned.

2 WHAT IS IN THE ATHRA LESSON PLANS AND ASSESSMENT CHECKLISTS?

The ATHRA Lesson Plans and Assessment Checklists are a set of guidance resources developed by ATHRA for use as an aid to heritage railway and tramway operators in Australia to assist them in the ongoing development and updating of local training and assessment resources for a range of heritage rail occupations. The topic areas currently covered by the guidance resources, as at November 2010, are summarised in Figure 2 below:

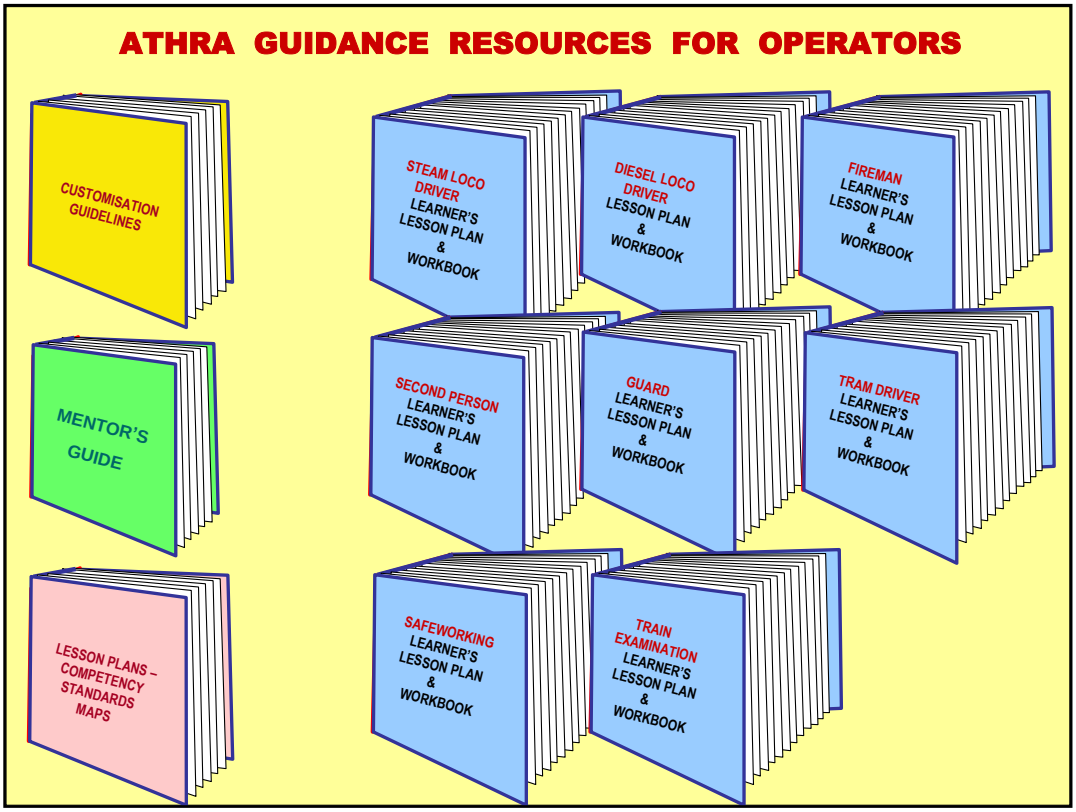
Figure 2
Key topic areas covered by the ATHRA guidance resources as at December 2010

1. Steam Locomotive Driver
2. Diesel Locomotive Driver
3. Fireman
4. Second Person
5. Train Guard
6. Tram Driver
7. Safeworking and General Safety
8. Train Examination Addendum

The overall set of resources available to ATHRA members is summarised in Figure 3 on the following page. They include:

- Eight templates for learner's lesson plans and associated knowledge and performance checklists and mentor's Q&A booklets -- one for each topic area (Note that the *'Training Examination Addendum'* set of resources is intended for use with all persons who may have a responsibility for train examination, including train drivers and guards and other authorised personnel where applicable),
- A template for a mentor's guide,
- These customisation guidelines, and
- A mapping of each of the lesson plans to the relevant national competency standards in the Transport and Logistics Industry Training Package.

Figure 3

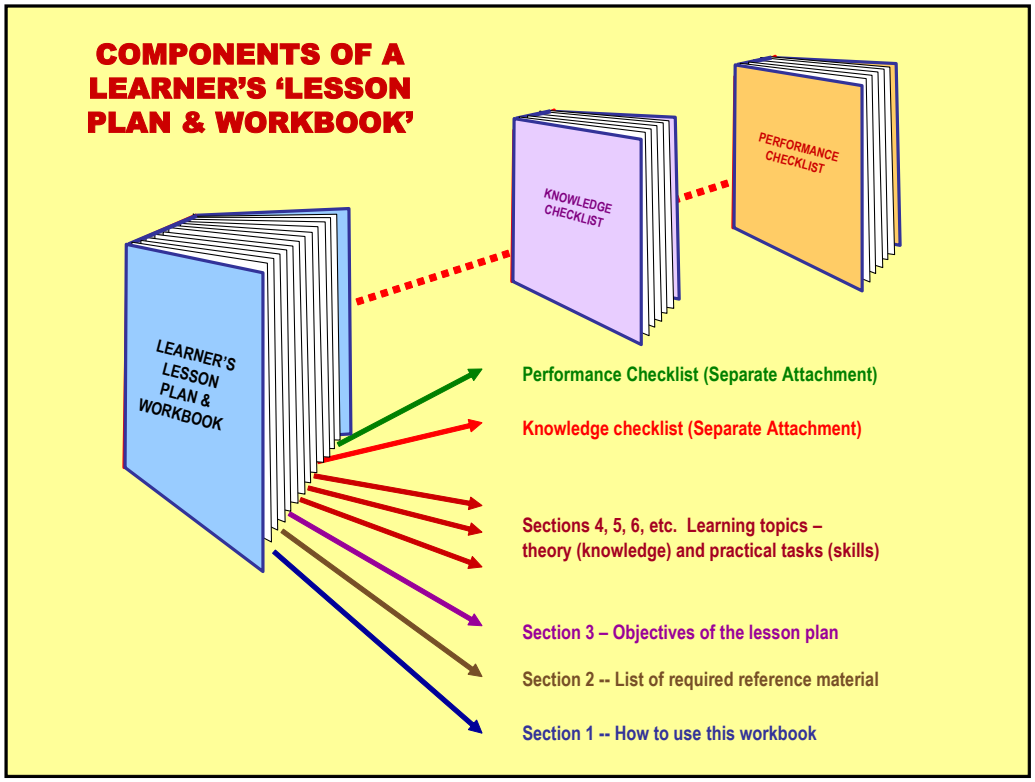


The Learner's Lesson Plans and Workbooks are designed as templates that can be used ***'as is'*** or can be suitably modified to meet a railway's or tramway's specific requirements, if desired. Such editing and modification should be by way of customisation to local requirements. Care needs to be taken in the customising process not to delete critical aspects of skills and knowledge.

The components of each Learner's Lesson Plan and Workbook are summarised in Figure 4. They comprise the actual workbook and two separate attachments: (1) the knowledge checklist and (2) the performance checklist each for that particular topic area.

Section 1 of the lesson plan and workbook provides information on how it can be used by the learner. Section 2 summarises the reference material that will be made available by the particular railway or tramway providing the training and assessment. Section 3 lists the learning topics to be covered and achieved through the use of the lesson plan and workbook. Sections 4, 5, 6 etc. (depending on the number of learning topics for the lesson plan) describe the knowledge needed and the practical activities to be undertaken for the learning topics concerned. The knowledge and performance checklists are provided as separate attachments.

Figure 4



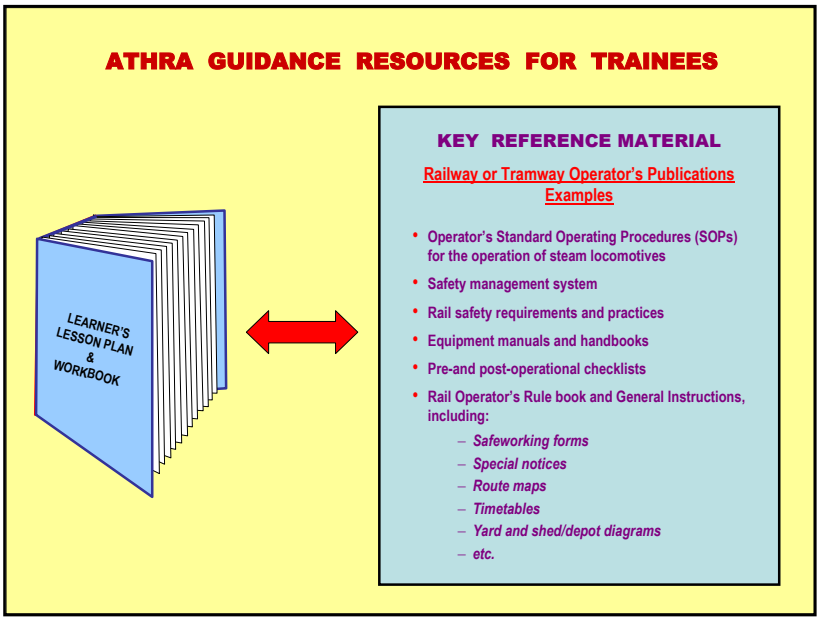
The knowledge and performance checklists provide the learner with prior information on

- the types of questions that may be asked by an assessor to confirm that the required knowledge has been learned, and
- the types of practical activities that an assessor may observe to confirm that required performance has been demonstrated.

The checklists provided by ATHRA are templates that may be customised, if required, to match the particular railway's or tramway's requirements.

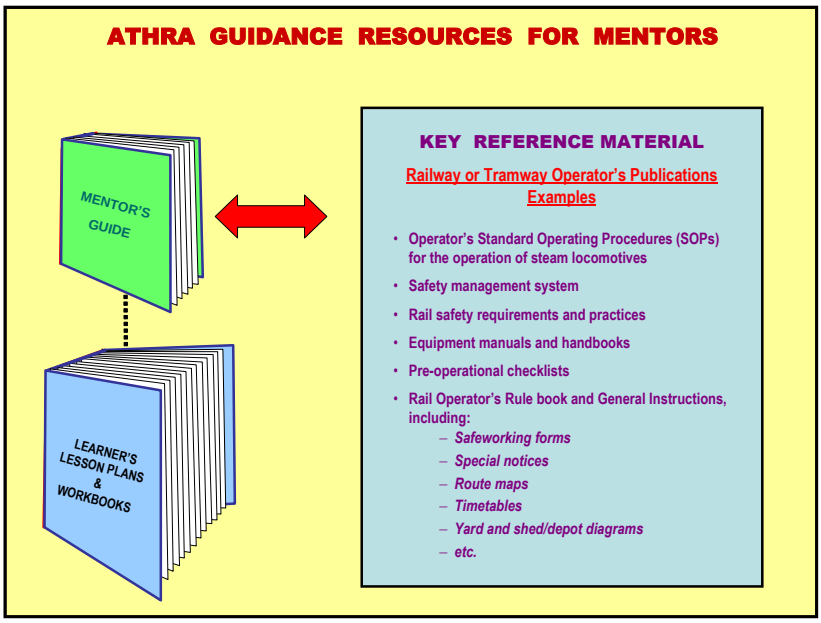
The most critical aspect of the lesson plans and associated checklists is their cross-referencing to key reference material in the form of the local railway or tramway publications as summarised in Figure 5. These include the operator's standard operating procedures, safety management system, rail safety requirements and practices, manuals for equipment, pre- and post-operation checklists, and rule book (incorporating safeworking forms, special notices, route maps, timetables, yard and shed/depot diagrams, etc.). They may also include instructions and special procedures for risk management during bushfire seasons or for other risk situations that may exist on a particular railway or tramway.

Figure 5



The ATHRA guidance resources available for mentors are summarised in Figure 6 (i.e. a mentor's guide, a copy of the learner's lesson plan and workbook and access to key reference material in the form of the local railway or tramway operator's publications).

Figure 6

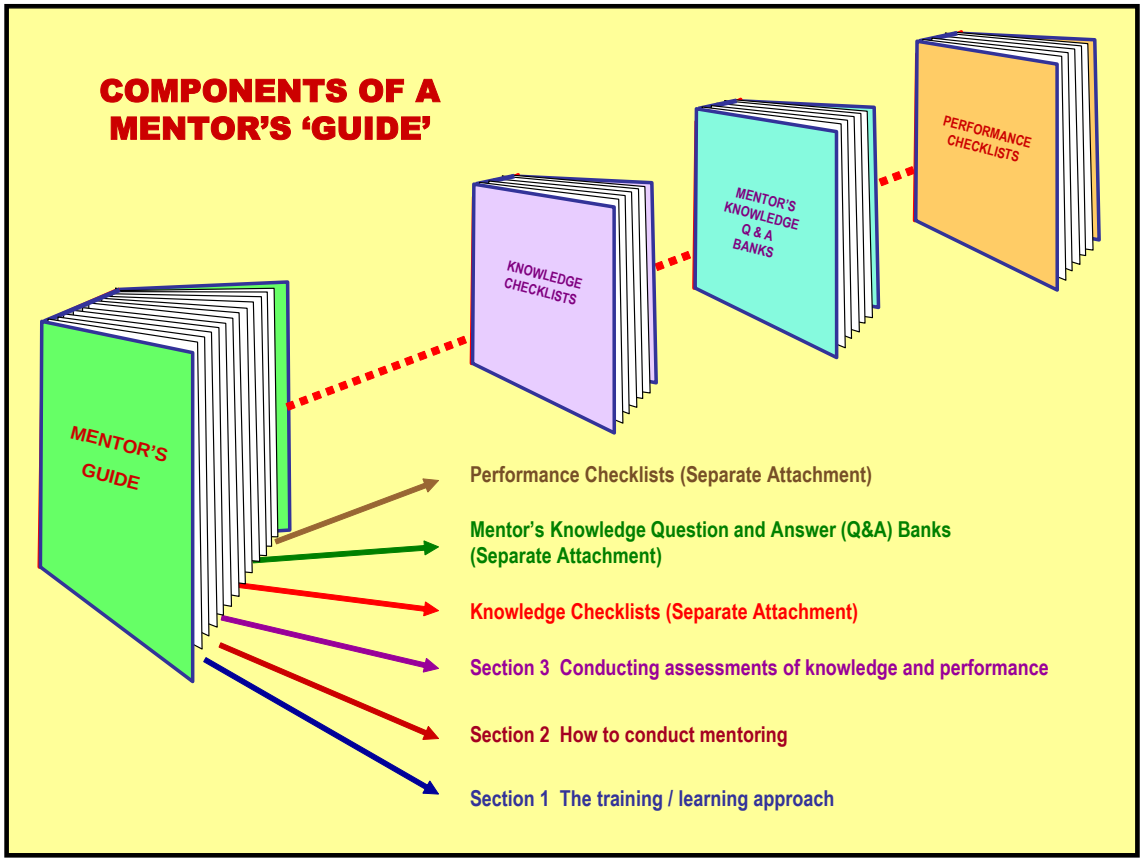


The Mentor's Guide is also designed as a template that can be used ***'as is'*** or can be suitably modified to meet a railway's or tramway's specific requirements, if desired.

The components of the Mentor's Guide are summarised in Figure 7. They comprise the actual guide and three separate attachments: (1) the applicable knowledge checklists and (2) the applicable mentor's Q&A banks (providing mentor's with some sample indicative answers to the questions listed in the knowledge checklists), and
(3) the applicable performance checklists.

Section 1 of the Mentor's Guide describes the training / learning approach typically used by heritage railway and tramway operators in Australia (the ***'scaffolding'*** approach). Section 2 describes how to conduct mentoring in the heritage rail context using the ATHRA guidance materials. Section 3 describes how assessments of knowledge and performance should be conducted. The Checklists and Mentor's Q&A Banks are separate attachments to the Guide. As with the Lesson Plans and Workbooks, the Mentors Guide can be suitably customised by a railway or tramway operator to match their own specific circumstances.

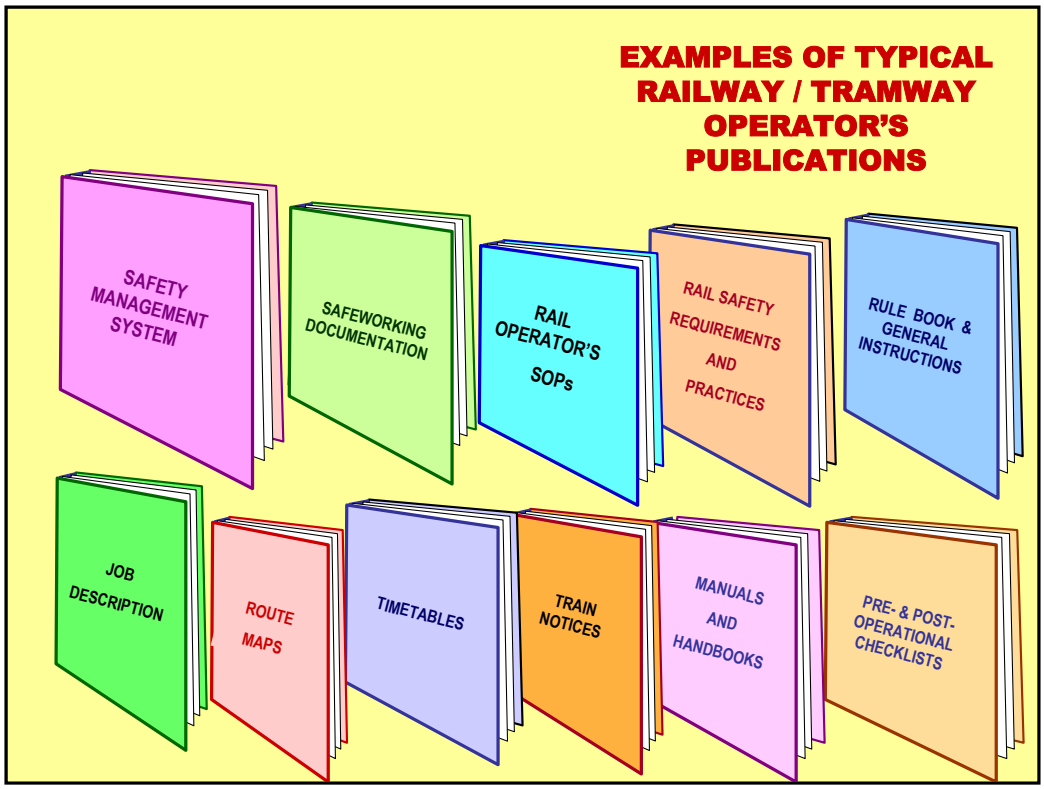
Figure 7



3 RAIL AND TRAMWAY OPERATORS' PUBLICATIONS

As described in the previous section, the ATHRA guidance resources cross-reference the specific railway / tramway operator's local publications as the key reference sources of information for use during training and assessment. Examples of typical railway / tramway operator's local publications are summarised in Figure 8 below.

Figure 8



This of course implies that:

- such publications exist within each railway or tramway,
- they are sufficiently up to date and explicit, and
- can be readily made available to learners and their mentors for reference during their training and assessment activities (in principle, this should not be an issue as the examples of publications provided are key operating documents for a railway or tramway).

Additional railway / tramway publications that will be of considerable value as local reference material during training and assessment are summaries or *'Fact Sheets'* of equipment and components used by the railway or tramway concerned. Such summaries

beneficially include a description of the equipment, its purpose, its principal parts, its function(s) and operation, and its potential defects and related action that should be taken if the defects occur. They can also include a list of suitable up-to-date references that would give additional highly-relevant, accurate and meaningful information that will aid mentors, trainees and assessors to develop their knowledge and understanding of the equipment and components concerned.

In this modern age of digital photography, images of the equipment can also be taken and be inserted into the summaries. A number of railways already have summary descriptions of equipment and potential defects, etc. These could be further enhanced and updated by local heritage railways or tramways and provide an ideal complement to lesson plans and workbooks and are an invaluable resource in learning and assessment activities.

Templates for the development of such summaries or *'Fact Sheets'* and also pre- and post-operational checklists are provided as Attachments 1 and 2 to these Customisation Guidelines.

Suffice it to say, each railway's / tramway's local publications provide the key means for customisation of training and assessment. The ATHRA guidance resources have been **generically drafted** so they can be used in conjunction with these local reference documents. This does not preclude the guidance resources themselves being altered to customise them to local requirements, if desired. However, they are also in a form that can be used ***'as is'*** with differences across railways / tramways being accommodated through the cross-referencing in the lesson plans and the knowledge and performance checklists to a railway / tramway operator's local publications

A summary of the **coding schemes** used for Knowledge Checklists and Performance Checklists is provided in Attachment 3. Similar summaries are also provided for reference at the front of each of the actual generic checklists.

A **step-by-step process for customising** the questions and performance checks in the Knowledge Checklists, Mentor's Q&A Booklets and Performance Checklists is provided in Attachment 4. Similar summaries of the process are also provided for reference at the front of each of the actual generic checklists and Q&A booklets.

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4 WHAT THE LESSON PLANS AND CHECKLISTS ARE AND WHAT THEY ARE NOT.

The ATHRA guidance resources are not intended to be mandatory requirements for training and assessment.

Rather they are intended to be an aid to member operators in the ongoing development of training and assessment arrangements for personnel in their railway or tramway. They are also intended to promote more consistency in the approach to training and assessment provided by its members for personnel working either as paid staff or volunteers in the tourist and heritage rail sector. This includes compliance with regulatory requirements and flexibility to accommodate the differences across the various railway / tramway operators. A primary objective of the guidance resources is to provide a readily accessible and affordable set of flexible materials that can be obtained from ATHRA and easily used and adapted by members as required.

For some operators, the guidance resources can be the basis of developing a new set of training and assessment materials by either

- using the resources ‘as is’ and reviewing and suitably updating the currently available ‘cross-referenced’ railway / tramway operator’s local publications, if required, or

- customising the resources to the railway’s / tramway’s local circumstances and requirements and also reviewing and updating the currently available railway / tramway operator’s local publications, if required including the recommended development of suitable *‘FACT SHEETS’* or summaries of key equipment and components as summarised in Section 3 above and Attachment 2 below.

For other operators who already have a well-developed set of training and assessment resources, the guidance resources can be used an aid and reference material in the ongoing review and updating of the existing training resources.

All of the ATHRA guidance resources are available in Microsoft Word electronic format allowing easy editing and modification, or cut and pasting as required.

5 HOW THE LESSON PLANS CAN BE USED AND CUSTOMISED BY RAIL AND TRAMWAY OPERATORS.

There are number of options for the ways in which the Lesson Plans and Workbooks and associated guidance resources can be used and customised dependent on the circumstances of the railway or tramway operator concerned. Some of these options are summarised below…….

OPTION 1

Use the lesson plans and workbooks, mentors guide and associated checklists and Mentor's Q&A banks in there ***existing template form***.

Confirm that suitable reference publications are available within the railway / tramway for use by learners, mentors and assessors during training and assessment activities. If necessary update the reference publications to better fulfil regulatory requirements, serve operational requirements and be an effective reference resource during training and assessment activities. This may include the development of suitable *'FACT SHEETS'* or summaries of key equipment and components.

OPTION 2

Modify the guidance resources by adding the railway's / tramway's name, logo, background information, images, etc. but leave the basic text of the lesson plans and workbooks, mentors guide and associated checklists and Mentor's Q&A banks as per their ***existing templates*** .

Confirm that suitable reference publications are available within the railway / tramway for use by learners, mentors and assessors during training and assessment activities. If necessary update the reference publications to better fulfil regulatory requirements, serve operational requirements and be an effective reference resource during training and assessment activities. This may include the development of suitable *'FACT SHEETS'* or summaries of key equipment and components.

OPTION 3

Modify the guidance resources by adding the railway's / tramway's name, logo, background information, images, etc. and updating the content of the existing template by incorporating detail from the railway's / tramway's existing training resources and assessment materials.

Confirm that suitable reference publications are available within the railway / tramway for use by learners, mentors and assessors during training and assessment activities. If necessary, update the reference publications to better fulfil regulatory requirements, serve operational requirements and be an effective reference resource during training and assessment activities. . This may include the development of suitable *'FACT SHEETS'* or summaries of key equipment and components.

OPTION 4

Where there are already well-developed existing training and assessment resources, use the ATHRA guidance materials to check where improvements can be made to the existing railway / tramway resources to ensure that all training and assessment requirements are sufficiently comprehensive.

Confirm that suitable reference publications are available within the railway / tramway for use by learners, mentors and assessors during training and assessment activities. If necessary, update the reference publications to better fulfil regulatory requirements, serve operational requirements and be an effective reference resource during training and assessment activities. This may include the development of suitable *'FACT SHEETS'* or summaries of key equipment and components.

ATTACHMENT 1

TEMPLATE OF PRE- AND POST-OPERATIONAL CHECKLISTS

Where personnel are required to carry out pre- and/or post- operation checks on equipment, the following template may be useful.

If necessary, unneeded rows can be deleted using the *'Delete'* function in the *'Table'* pull-down menu in Microsoft Word. Alternatively, if additional rows are needed, the last row can be copied and pasted after the last row in the table.
See Attachment 4

PRE- OR POST-OPERATIONAL CHECKLIST TEMPLATE

1. [Insert a brief description of check 1]..... ☐
2. [Insert a brief description of check 2]..... ☐
3. [Insert a brief description of check 3]..... ☐
4. [Insert a brief description of check 4]..... ☐
5. [Insert a brief description of check 5]..... ☐
6. [Insert a brief description of check 6]..... ☐
7. [Insert a brief description of check 7]..... ☐
8. [Insert a brief description of check 8]..... ☐
9. [Insert a brief description of check 9]..... ☐
10. [Insert a brief description of check 10]..... ☐
11. [Insert a brief description of check 11]..... ☐
12. [Insert a brief description of check 12]..... ☐
13. [Insert a brief description of check 13]..... ☐
14. [Insert a brief description of check 14]..... ☐
15. [Insert a brief description of check 15]..... ☐
16. [Insert a brief description of check 16]..... ☐
17. [Insert a brief description of check 17]..... ☐
18. [Insert a brief description of check 18]..... ☐
19. [Insert a brief description of check 19]..... ☐
20. [Insert a brief description of check 20]..... ☐

ATTACHMENT 2

TEMPLATE FOR SUMMARIES OR *'FACT SHEETS'* OF EQUIPMENT AND COMPONENTS

(I.E. PURPOSE, PRINCIPAL PARTS, FUNCTIONS AND OPERATION, POTENTIAL DEFECTS AND RELATED ACTION AND ADDITIONAL REFERENCES)

For each key piece of equipment with which personnel need to be familiar produce a summary or *'FACT SHEET'* using the following template.

If possible, insert one or more JPEG images of the equipment derived from a digital photograph or a scanned picture.

EQUIPMENT:

[Name of equipment]

PURPOSE:

[Insert a brief description of the purpose of the equipment]

PRINCIPAL PARTS:

[Insert a brief summary of the principal parts and features of the equipment]

FUNCTION AND OPERATION:

[Insert a brief overview of how the equipment functions and operates]

POTENTIAL DEFECTS:

[Insert a brief list of the most likely defects that could occur to the equipment]

ACTION TO BE TAKEN IN EVENT OF A DEFECT IN THE EQUIPMENT:

[Insert a brief explanation of the railway's / tramway's policy for action to be taken in the event of a defect being identified]

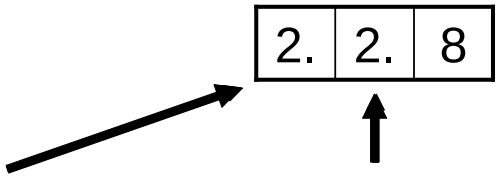
ADDITIONAL REFERENCES

[Insert a brief list of suitable up-to-date references that would give additional highly-relevant, accurate and meaningful information that will aid mentors, trainees and assessors to develop their knowledge and understanding of the equipment and components concerned.]

ATTACHMENT 3

CODING SCHEME FOR THE ATHRA RESOURCES

The coding scheme for the ATHRA Knowledge Checklists and Mentor's Q&A Booklets is as follows:



Code for occupational focus of the resource i.e.

1.-- steam locomotive driver
2.-- diesel locomotive driver
3.-- fireman
4.-- 2nd person
5.-- guard
6.-- tram driver
7.-- safeworking
8.-- train examination addendum

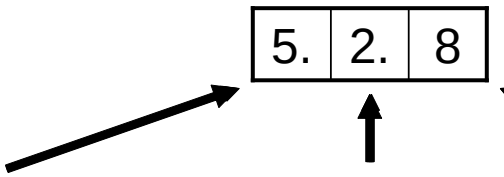
Code for the set of questions in the resource

(in this case the 2nd set for the diesel locomotive driver)

Code for number of the question in the set.

(in this case the eighth question in the 2nd set of questions for the diesel locomotive driver)

The coding scheme for the ATHRA Performance Checklists is as follows:



Code for occupational focus of the resource i.e.

1.-- steam locomotive driver
2.-- diesel locomotive driver
3.-- fireman
4.-- 2nd person
5.-- guard
6.-- tram driver
7.-- safeworking
8.-- train examination addendum

Code for the set of performance checks in the resource

(in this case the 2nd set of checks for the guard)

Code for number of the performance check in the set.

(in this case the eighth check in the 2nd set of performance checks for the guard)

ATTACHMENT 4

CUSTOMISATION OF QUESTIONS AND PERFORMANCE CHECKS IN THE *ATHRA RESOURCES*

The ***Knowledge Checklists, Mentor's Q&A Booklets Performance Checklist****s* 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 and performance checks in the booklets 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 and performance checks or the insertion of additional suitable performance checks.

To aid in the addition of questions and performance checks, if needed, blank rows have been provided at the end of each set of questions or checks in the generic checklists. The following is a step-by-step process to incorporate any additional questions or performance checks:

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 or performance checks (including the original blank row in the generic document)
5. Insert the text for each of the additional questions or performance checks
6. Insert the codes of the additional questions or performance checks as per the coding scheme for the ATHRA training and assessment resources
7. Make sure there are matching questions and sample responses in the ***Knowledge Checklist*** and related ***Mentor's Q&A Booklet*** with the same code