

Asset Management Technical Data Requirements

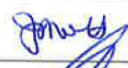


Specification

Rail Commissioner

PTS-MS-05-AM-PRC-00000091

DOCUMENT CONTROL

Document Status

DOCUMENT OWNER: RAIL ASSET MANAGEMENT			
Action	Name and Position	Signature	Date
Prepared By:	Name: Judy Mott Title: Lead, Change Management		<u>9/5/2018</u>
Reviewed By:	Name: Shannon Fuller Title: Rail Infrastructure Manager		<u>9/5/18</u>
Approved By:	Name: Peter Lawson Title: Unit Manager, Rail Asset Management		<u>9/5/18</u>
Document Review Schedule:		3 years	

Document Amendment Record

REV	CHANGE DESCRIPTION	DATE	COMMENTS
0	Original Issue	25/5/2012	First Issue
1	Update technical data document requirements.	09/05/2018	Updated to include deliverable requirements Technical Data Requirements.

TABLE OF CONTENTS

1.	Introduction	5
2.	Purpose	5
3.	Scope	6
4.	Asset Management Technical Data (AMTD) Requirements Overview, Elements and Sections	6
4.1.	AMTD Requirements Overview	6
4.2.	AMTD Elements	6
4.3.	AMTD Sub-Elements Descriptions	7
5.	AMTD - GENERAL Requirements	12
	AMTD-GENERAL-1-1 - Format and Content	12
	AMTD - GENERAL-1-2 - Deliverables Register	13
	AMTD - GENERAL-1-3 Transmittals	14
6.	AMTD-PLANNING – Planning	15
	AMTD-PLANNING-1-1 - Management of Change	15
	AMTD-PLANNING-1-2 - Planning	16
	AMTD-PLANNING-1-3 - Asset Handover Planning	17
	AMTD-PLANNING-1-4 - Safety, Risk and Hazards	18
7.	AMTD-DESIGN – Design	19
	AMTD-DESIGN-1-1 – Preliminary Product Breakdown Structure – Modified Baseline	19
	AMTD-DESIGN-1-2 – Preliminary Product Breakdown Structure – Greenfield Projects	20
	AMTD-DESIGN-1-3 - Waivers	21
	AMTD-DESIGN-1-4 - Design Decisions	22
	AMTD-DESIGN-1-5 - Safety Assurance Documentation	23
8.	AMTD-BUILD – Procure and Construct	24
	AMTD-BUILD-1-1 - Software	24
	AMTD-BUILD-1-2 - Baselines	25
	AMTD-BUILD-1-3 – Technical Documents and Drawings	26
	AMTD-BUILD-1-4 - Records	27
	AMTD-BUILD-1-5 – List of Third Party Assets and Interfaces	28
	AMTD-BUILD-1-6 - Special Tools/Test Equipment	29
	AMTD-BUILD-1.7 – Defects Register	30
	AMTD-BUILD-1-8 – Final Product Breakdown Structure	31
9.	AMTD-INTEGRATE/TEST – Test	33
	AMTD-INTEGRATE/TEST-1-1 - Test and Commissioning	33
	AMTD-INTEGRATE/TEST-1-2 - Test Reports	34
10.	AMTD-HANDOVER – Commissioning and Handover	35
	AMTD-HANDOVER-1-1 - Handover	35
	AMTD-HANDOVER-1-2 - Punch Lists	36

AMTD-HANDOVER-1-3 - As-Built Drawings 37

AMTD-HANDOVER-1-4 - Residual Risk/ Hazards 38

11. AMTD-OPERATIONS 39

AMTD-OPERATIONS-1-1 - Operations 39

AMTD-OPERATIONS-1-2 - Training 40

12. AMTD-MAINTENANCE – Maintenance 42

AMTD-MAINTENANCE-1-1 - Maintenance 42

AMTD-MAINTENANCE-1-2 - Maintenance Contracts 44

13. AMTD-DISPOSAL – Decommissioning 45

AMTD-DISPOSAL1-1 - Decommissioning/ Disposal 45

14. Supporting Information 46

14.1. Related Documents 46

14.2. Tools and Templates 47

14.3. References 47

14.4. Definitions and Acronyms 47

1. Introduction

The Rail Safety National Law National Regulations 2012 prescribe a requirement for a Safety Management System (SMS) for accreditation to operate a railway.¹ Asset Management is part of the DPTI Rail Operation's SMS and its function includes the maintenance of the Adelaide Metropolitan Passenger Rail Network (AMPRN) asset configuration baseline.

The DPTI Rail asset configuration baseline comprises of:

- asset data (describing physical assets) and
- associated technical documents, drawings and records which describe the asset's functional and physical attributes.

DPTI undertakes projects that introduce new rail assets, modify existing assets and/or remove assets from the AMPRN asset baseline to ensure that services and facilities continue to meet Governments Strategic objects.

These projects generate and deliver significant asset data and associated technical documents, drawings and records not only as a requirement at project delivery/handover of assets but is also as essential requirement for the ongoing commitment to the safe and reliable operation and maintenance of those assets.

Technical documents and drawings are supported by the delivery of technical records.

Asset data and technical documents, drawings and records are required to be provided at handover following the completion of any change to the AMPRN. They must be:

- correct,
- up-to date,
- able to provide and ensure performance, safety and integrity of the AMPRN asset configuration baseline,
- able to provide traceability and history and
- maintained with accurate information.

Changes to the AMPRN may be large, complex or small and therefore asset management technical data requirements will vary according to the type and size of project.

DPTI Rail Infrastructure Management is the delivery point for the handover of asset data and technical documents, drawings and records to enable updates to the DPTI Rail Enterprise Asset Management System (EAMS) and the KNet Technical Library.

This document is an update to the previous version known as the Asset Management Technical Data Requirements for Projects Procedure with expanded requirements and guidelines.

2. Purpose

The purpose of this document is to specify the sequence, format and content of asset data and technical documents, drawings and records when there are changes to the AMPRN.

¹ Rail Safety National Law National Regulations 2012 (Part 4 Safety Management, Division 1 – 16 prescribed requirements for safety management system.

3. Scope

This document is applicable to anyone directly or indirectly responsible through DPTI and/or contracted parties for making changes to the AMPRN rail asset configuration baseline. This includes the adding, modifying or removal of assets and/or systems from/to the network.

The information to be provided as per this specification supports ongoing DPTI Rail Infrastructure Engineering, asset and configuration management of AMPRN assets as part of the DPTI SMS and obligations under the Rail Safety Act.

For the purposes of this document the term “assets” refers to assets, rotatable, non-rotatable, tools, spare parts, assemblies, components, software.

4. Asset Management Technical Data (AMTD) Requirements Overview, Elements and Sections

4.1. AMTD Requirements Overview

This AMTD is aligned with the asset life-cycle from planning to disposal and broken down into AMTD elements and sub-elements.

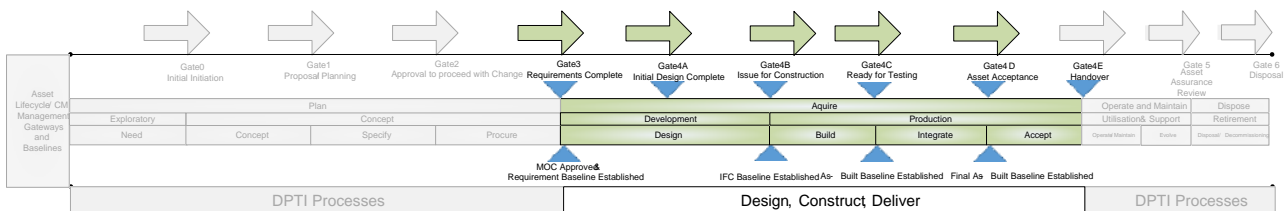


Figure 1 – Project Design, Construct and Delivery Asset Lifecycle Gates.

4.2. AMTD Elements

AMTDs are broken down into elements. These elements are:

- AMTD – General Requirements
- AMTD – Planning – Gates 0 - 3
- AMTD – Design – Gates 3 – 4B
- AMTD – Build – Gates 4B – 4C
- AMTD – Integrate/Test – Gates 4C – 4D
- AMTD – Handover Gates-4D – 4E
- AMTD – Operations – Gates 4E - 5
- AMTD – Maintenance - Gates 4E - 5
- AMTD – Disposal Gate 5 – 6.

Each element is further broken down into specific sub-elements.

4.3. AMTD Sub-Elements Descriptions

	AMTD Title	Description and Intended Use
AMTD-General	Initiate	
AMTD - GENERAL-1-1	Format and Content	<p>This Sub-element describes the format and content requirements for all DPTI Rail Infrastructure Management asset data, technical documents, drawings and records delivered as part of asset(s) changes to the AMPRN (adding new, modifying and/or removing assets).</p> <p>These requirements ensure asset data and technical documents, drawings and records are consistent, are current and fit for future use.</p>
AMTD - GENERAL-1-2	Deliverables Register	<p>A Deliverables Register is used to communicate what is expected to be delivered and when. It is used for planning, traceability and auditing activities at major milestones and prior to Operational Readiness/Handover. It also provides a record of deliveries and supports the Asset Handover process.</p> <p>The Deliverables Register must be established and maintained by the group responsible for supplying assets (hardware and/or software), and their associated asset data and technical documents, drawings and records as a result of changes to AMPRN.</p>
AMTD - GENERAL-1-3	Transmittals	<p>A Transmittal is an accompanying record for deliverables sent or received. They detail what has been sent, who it was sent to and when, and any conditions associated with the delivery. Transmittals are used to audit against the Deliverables Register and provides traceability of deliveries.</p> <p>It is also the mechanism to acknowledge receipt of deliverables and the basis of communication if the delivery has been accepted or rejected.</p>
AMTD-PLANNING	Plan	
AMTD-PLANNING-1-1	Management of Change	<p>The Management of Change process is initiated when requirements are established for a change. It ensures that stakeholders have been engaged and the correct amount of impact assessment and solutions have been investigated and communicated. The change process also ensures that proposed changes are approved prior to implementation, are controlled and once completed, verified that it was implemented as approved.</p> <p>The Management of Change process facilitates the traceability of changes for future information and facilitates the changes to the AMPRN Rail asset configuration baseline through supporting data.</p> <p>Change detail will be dependent on size and complexity of the change.</p>
AMTD-PLANNING-1-2	Planning	<p>Management Plans define how changes to the asset(s) will be managed through the phases of the asset life-cycle. Plans help to communicate and summarise how requirements will be addressed and managed, provide scope of the change and its management, address risk and safety management and ensure stakeholder expectations are managed while providing an implementation methodology, defined responsibilities, milestones, and reviews and hold points etc.</p>
AMTD-PLANNING-1-3	Asset Handover Planning	<p>A handover strategy must be considered early when adding, modifying or removing assets from the AMPRN to ensure asset delivery facilitates the effective handover of assets to minimise any additional costs, delays and safety risks. Also see Handover Sub—element AMTD-HANDOVER-1-1 for handover requirements.</p>
AMTD-PLANNING-1-4	Safety, Risk and Hazards <ul style="list-style-type: none"> • Risk Register • Preliminary Hazard Assessment 	<p>Safety, risk and hazards must be considered for any proposed changes to the AMPRN. This must be documented and may vary depending on the size and complexity of the change.</p> <p>It must be demonstrated that safety, risks and hazards have been assessed to ensure they are controlled and managed.</p>

Asset Management Technical Data Requirements Specification

	AMTD Title	Description and Intended Use
AMTD-DESIGN		
Development (Design)		
AMTD-DESIGN-1-1	Preliminary Product Breakdown Structure (PBS) – Modified	<p>The Product Breakdown Structure (PBS) is a hierarchical breakdown of parent/child relationships of systems, sub-systems and assets to describe and define levels within a product or system, their interfaces and dependencies. It forms the basis of product structures and their detail.</p> <p>The PBS also forms the basis when determining levels of testing, management of change, essential spares, maintenance, and forms the structure to determine the levels of technical documents, drawings and record types required.</p> <p>All system, sub-systems and assets within the structure must have a parent element except for the very top level.</p> <p>The PBS is also known as Configuration Item List (CIL).</p> <p>Greenfield projects are covered by Product Breakdown Structures – Greenfield Projects Sub-element AMTD-DESIGN-1.2.</p> <p>The PBS during design is a preliminary PBS and it is expected that the final PBS must be completed by the end of the Build Phase. Refer to Sub-element AMTD-BUILD-1-8 – Final Product Breakdown Structure.</p>
AMTD-DESIGN-1-2	Preliminary Product Breakdown Structure (PBS) Green-field Projects	<p>The description for Product Breakdown Structures for Green field projects is the same as for modified PBS Sub-element AMTD-DESIGN-1-1</p> <p>Greenfield projects are defined as completely new pieces of infrastructure where it has not already existed, been commissioned or operational as part of a system, sub-system or assets in the AMPRN infrastructure.</p> <p>The PBS during design is a preliminary PBS and it is expected that the final PBS must be completed by the end of the Build Phase. Refer to Sub-element AMTD-BUILD-1-8– Final Product Breakdown Structure</p>
AMTD-DESIGN-1-3	<p>Waivers</p> <ul style="list-style-type: none"> • Waiver Register • Waivers 	<p>Waivers are raised where there is non-compliance with standards or design specifications. They are to ensure that any changes from approved standards have been assessed for safety and risks/impacts to ensure they are considered and approved.</p>
AMTD-DESIGN-1-4	Design Decisions	<p>During the course of development of new or modified assets it may be necessary to change design requirements. The Design Decision record is used as a means of capturing the details of the decision including documenting the background and justification, source of the reference material used and to enable traceability of design. It may be developed in conjunction with waivers.</p> <p>The Type Approval process is to be considered in this process.</p>
AMTD-DESIGN-1-5	Safety Assurance Documentation	<p>DPTI is an accredited rail transport operator and has a requirement to comply with the Rail Safety National Law (Act) and Regulations. This requirement is extended to any contractor or subcontractor that works under the Rail Commissioner’s Notice of Accreditation. Systems must be in place to provide a high level of safety assurance, awareness and commitment through all levels of the Rail Transport Operator and contracting chains. This extends to all activities which add, modify or remove assets from the AMPRN.</p> <p>The size and complexity of a change to the AMPRN will determine the supporting level of assurance and documentation that must be required by the Rail Commissioner against each addition, modification or removal of assets.</p>
AMTD-BUILD		
Implement (Build)		
AMTD-BUILD-1-1	<p>Software</p> <ul style="list-style-type: none"> • Software Register • Software Documentation • Software/PBS 	<p>Software is essential for the deployment, management and monitoring of the AMPRN. The rail network is made up of a combination of hardware assets which have software applications and files. To manage the configuration of the network it is essential that software is identified, knowing what and where it is.</p>

Asset Management Technical Data Requirements Specification

	AMTD Title	Description and Intended Use
AMTD-BUILD-1-2	Baselines <ul style="list-style-type: none"> • Contract BL • IFC (design) BL • As-Built BL • Final As-Built BL 	<p>Baselines are used as a basis for managing changes and establishing sets of asset data, technical documents and drawings at designated points of time to describe the status of contracts, design, approved for construction, as built configuration and the as maintained baselines.</p> <p>During the life-cycle of assets these baselines are managed by different groups to provide the basis for transitioning from one phase to another and to provide a point of reference as a system, sub-system or asset changes during planning, development and delivery.</p> <p>The Contract and Issued for Construction baselines are document baselines. As-Built baselines include asset data for physical assets (including hardware, software and firmware) and associated technical documents and drawings.</p>
AMTD-BUILD-1-3	Technical Documents and Drawings <ul style="list-style-type: none"> • Tech Docs and Drawing Register • Technical Docs • Drawings 	<p>Technical documents and drawings describe the physical and functional characteristics of systems, subsystems and assets. They must include requirements, interface, design, installation instructions, test, maintenance and operational documentation.</p> <p>Technical documents and drawings form part of the AMPRN asset baseline. Details are recorded as part of DPTI Rail Infrastructure Management document management systems where technical document and drawings are managed in a controlled environment for access, updates and distribution.</p> <p>The document management system is required to receive the most current versions of technical documents and drawings as soon as possible to ensure they are available for operations and maintenance.</p> <p>The association of technical documents and drawings to assets are also identified in the Product Breakdown Structures Sub-element AMTD-DESIGN-1-1 and Sub-element AMTD-DESIGN-1-2. The register (list) of technical documents and drawings are listed in Technical Document and Drawing Registers and Delivery Registers.</p> <p>Also refer to Sub-element AMTD-HANDOVER-1-3 As-Built Drawings.</p>
AMTD-BUILD-1-4	Records	<p>Records provide evidence of activities, decisions for design, construction, and procurement, installation, testing, operating and/or maintaining assets which form part of the AMPRN asset baseline.</p> <p>Records generated or used by or for the State Government are governed by the State Records Act 1997, DPTI Record Keeping Policies and/or obligations under the Rail National Safety Law 2012.</p> <p>Disposal of Records (destroying, archiving and/or transferring to other agencies) of DPTI Rail Infrastructure Management records must also take into consideration the requirements of the Department's applicable Disposal Schedules.</p>
AMTD-BUILD-1-5	Third Party Assets and Interfaces <ul style="list-style-type: none"> • Third Party Assets • Interface Agreements 	<p>Third party assets are those which are not part of the AMPRN but are an interface to it. Changes either to the AMPRN or the interface may or may not be affected by any changes made by either party which must address any impacts.</p> <p>There is a requirement as part of interface co-ordination for rail operations to identify risks and safety issues arising from rail or road crossings and determine measures to manage those interface risks So Far As Is Reasonably Practicable (SFAIRP)</p> <p>Interfaces to be managed must be defined and described including responsibilities and details of processes for safe operating, maintaining and/or disposal.</p>
AMTD-BUILD-1-6	Special Tools/Test Equipment <ul style="list-style-type: none"> • Special tools/test equipment register 	<p>Specialised tools are required to be controlled and maintained. They also require risk assessments, specialist training, work instructions, calibration and maintenance.</p>
AMTD-BUILD-1-7	Defects <ul style="list-style-type: none"> • Defects Register 	<p>Defect management identifies defects or problems to ensure they are documented, reviewed and the rectification is managed.</p>

Asset Management Technical Data Requirements Specification

	AMTD Title	Description and Intended Use
AMTD-BUILD-1-8	Final Product Breakdown Structure	The Final Product Breakdown Structure (PBS) is an update of the Preliminary Product Breakdown Structures Sub-element AMTD-DESIGN-1-1 and Sub-element AMTD-DESIGN-1-2 and must be updated at the end of Build Phase of any changes to the AMPRN.
AMTD-INTEGRATE/TEST	Handover - Testing and Assurance (Integrate)	
AMTD-INTEGRATE/TEST-1-1	Test and Commissioning	Test plans are used to define and document the approach to testing during the planning stage of proposed changes to the AMPRN asset baseline. The degree and rigor of testing must depend on the level or risk of the change and impact to any affected interfaces.
AMTD-INTEGRATE/TEST-1-2	Test Reports <ul style="list-style-type: none"> • Test Reports • Test Results 	Test Reports provide a summary of testing and the results. They must describe the levels of testing eg unit/module, system testing, user acceptance, regression or performance testing and must include resolved issues, unresolved issues and reference to any defects. Test Records must relate to the Test Plan to provide the evidence to support the Test Report.
AMTD-HANDOVER	Handover	
AMTD-HANDOVER-1-1	Handover <ul style="list-style-type: none"> • Handover Certificate 	Asset Handover is the process of the transfer of responsibility of an asset from one organisation to another although it does not include transfer of legal ownership. Prior to handover the Manager, DPTI Rail Infrastructure Management must be satisfied that the system is ready for the transfer of responsibility and safe for operation. Also refer to Handover Planning Sub-element AMTD-PLANNING-1-3 .
AMTD-HANDOVER-1-2	Punch Lists	A punch list is prepared during a project to note any deficiencies to ensure verification that the work is to be completed to the contract documents.
AMTD-HANDOVER-1-3	As-Built Drawings <ul style="list-style-type: none"> • As-Built Drawings 	Drawings describe the system and through versioning describe the development of baselines through the asset life-cycle. They also form the basis for review and change. Also Refer to Sub-element AMTD-BUILD-1-3 .
AMTD-HANDOVER-1-4	Residual Risk/Hazards <ul style="list-style-type: none"> • Residual Risk Register 	The Residual Risk/Hazards are transferred to DPTI Rail Infrastructure Management as part of commissioning and handover.
AMTD-OPERATIONS	Utilisation and Support (Operations)	
AMTD-OPERATIONS1-1	Operations <ul style="list-style-type: none"> • Operational Instructions • Operation Manuals 	Operation Manuals provide instruction for the operation of assets, and/or test equipment. The information is intended to provide guidance for new or modified equipment and must form the basis of tailored procedures and work instructions applicable to systems, sub-systems and assets within the AMPRN.
AMTD-OPERATIONS1-2	Training <ul style="list-style-type: none"> • Training Material • Training Plan 	People carrying out rail operations must ensure that those operations are carried out safely. All safety workers are required to have a clear understanding of their roles and responsibilities as part of working within the rail Safety Management System (SMS). This includes the training in new work practices, procedures, policies, standards, specified hazards and relevant control measures.
AMTD-MAINTENANCE	Utilisation and Support (Maintenance)	
AMTD-MAINTENANCE-1-1	Maintenance <ul style="list-style-type: none"> • Maintenance Manuals • Maintenance Plans • Maintenance Information 	On-going maintenance is required to assure the safe operation of the AMPRN. Maintenance detail and plans are captured in maintenance manuals and where maintenance is contracted, in maintenance contracts. Maintenance manuals provide instructions for the maintenance of assets and/or test equipment. These manuals will also be used to set up maintenance tasks and schedules within the EAMS.

Asset Management Technical Data Requirements Specification

	AMTD Title	Description and Intended Use
AMTD-MAINTENANCE-1-2	Maintenance Contracts	Where maintenance is contracted out the maintenance contract forms part of the asset management technical data requirements.
AMTD-DISPOSAL	Disposal (Disposal/Decommissioning)	
AMTD-DISPOSAL-1-1	Decommissioning/ Disposal <ul style="list-style-type: none"> • Disposal /Decommissioning Plan • Disposal /Decommissioning Register • Disposal / Decommissioning Notification 	Disposal planning is used to identify assets to be decommissioned and/or disposed of as a result of changes to the AMPRN baseline. Planning is also used to identify any activities and risks associated with removal of assets e.g. cancelling of Planned Maintenance Plans and or scheduled work orders, update of network configuration details and drawings, withdrawing technical documents etc.

5. AMTD - GENERAL Requirements

AMTD-GENERAL-1-1 - Format and Content

1.	Preparation Instructions
1.1	Generic Format and Content As per this AMTD Sub-element.
2	Specific Content
2.1	All technical documents, drawings and records must be in English.
2.2	Final deliverables must be delivered as editable native format e.g. Microsoft Word, Excel, PowerPoint, and Visio, AutoCAD etc. whether developed directly or contracted on behalf of DPTI Rail Infrastructure Management.
2.3	Technical documents and drawings must be delivered as both a native file and PDF. The native file and PDF files must be identical.
2.4	PDF technical documents and drawings must not be scanned but "printed" as a PDF from the original document to enable the searching functionality of technical documents and drawings.
2.5	Individual technical documents, drawings and records must be supplied as individual documents and must not be combined into one file e.g. not PDF'ed together as one document.
2.6	Technical documents and drawings must not be managed and/or controlled as a Winzip file. Using Winzip files must only be used for a delivery "container". Each technical document and/or drawing within these files must also appear separately on the document delivery and document/drawing register(s).
2.7	All technical documents and drawings must have a unique document or drawing number. The unique document or drawing number must be included on every page.
2.8	Secondary identifiers must not be allocated to technical documentation and drawings where a unique identifier has already been allocated. This is to avoid ambiguity of the unique identifier and ensure that any cross references are maintained.
2.9	New technical documents and drawings must use the DPTI Rail numbering system unless otherwise agreed in writing with DPTI Rail Infrastructure Management.
2.10	Versioning must be consistent and consecutive.
2.11	All technical documents and drawings must be version controlled. The version/revision number must be clearly displayed.
2.12	All technical documents and drawings must have a revision history table showing traceability of revision changes.
2.13	Revision tables columns must have as a minimum: a) Revision number, b) Revision date and c) Reason for change and/or reference to the change number.
2.14	Technical documents and drawings released by DPTI Rail Infrastructure Management for update, regardless of large or small modifications must retain the original number and revision histories for traceability.
2.15	Refer to Sub-element AMTD-BUILD-1.3 Technical Documents and Drawings for further format details for technical documents and drawings and Sub-element AMTD-BUILD-1.4 Records.
2.16	Once a unique identifier has been allocated to a technical document or drawing the number must not be changed.

AMTD - GENERAL-1-2 - Deliverables Register

1.	Preparation Instructions
1.1	Generic Format and Content
a)	This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	As a minimum the Deliverables Register must reflect all deliverables in accordance to the contract.
2.2	The Deliverables Register must contain: <ul style="list-style-type: none"> a) The unique identifier for each deliverable e.g. document number, drawing number, software identifier, b) The title or description of the deliverable, c) The revision/version number of the deliverable, d) The planned delivery dates, e) The actual delivery date (the register to be updated as on-going maintenance of the register), f) The contractor transmittal number, g) Status of document e.g. draft, under-review, released and h) Project baseline e.g. Issued-for-Construction, As-Built.
2.3	The Deliverables Register must be maintained and updated as the status of deliverables change.
2.4	The Deliverables Register must be version controlled as a minimum for each baseline revision.

AMTD - GENERAL-1-3 Transmittals

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	Transmittals must accompany all deliveries to DPTI. Deliveries include but not limited to formal deliveries of: <ul style="list-style-type: none"> a) Technical documents and drawings, b) Records and c) Software.
2.2	Transmittals must be uniquely identified for traceability of the transmittal.
2.3	Details of items being transmitted must include but not limited to: <ul style="list-style-type: none"> a) The unique identifier of the item(s) being transmitted, b) Description or title of the item(s), c) Version/revision of the item(s), d) Date the item was released for use and e) Reason for the item is being transmitted.
2.4	The originator of the transmittal must include: <ul style="list-style-type: none"> a) The name of the organisation and b) The name of the person responsible for sending the transmittal and their contact details e.g. phone number, email address.
2.5	The originator of the transmittal must include detail of: <ul style="list-style-type: none"> a) The name of the organisation to receive the transmittal, b) The name and contact details of the intended receiver and c) If intended for a particular recipient within the organisation, the name and their title.
2.6	The purpose of the transmittal must be clearly stated.
2.7	If there are any special considerations or other detail which gives clarity to the delivery then this must also be added to the transmittal.
2.8	Documentation types, including records, must be delivered on separate transmittals. Different types must not be mixed on the same transmittal e.g. drawings to be on a separate transmittal to technical documents.
2.9	Duplicate deliveries of the same document/drawing or software at the same version must not be re-transmitted to DPTI Rail Infrastructure Management unless requested.
2.10	Transmittals must be regarded as records.
3	Tools and Templates
3.1	a) Generic Document Transmittal Template Knet: 11719321 .

6. AMTD-PLANNING – Planning

AMTD-PLANNING-1-1 - Management of Change

1.	Preparation Instructions	
1.1	Generic Format and Content	
	The records and documents applicable to support a Management Of Change (MOC) must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .	
2	Specific Content	
2.1	DPTI is responsible for raising a Management of Change (MOC) for the overall implementation of a project. However projects and contractors are expected to manage changes within the scope of that MOC using their own change and configuration management systems during implementation of the MOC.	
2.2	Changes to Functional Requirement and Design baselines must be managed by a change control process during design and construction phases.	
2.3	The minimum change details must be recorded are:	
	a) Description of the change	Detail of the change. Where the change is complex the detail must be captured in other documents and plans. These must be referenced in the MOC,
	b) Justification	Detail of the justification of the change e.g. rectifying safety or defect issues, improvements to the system etc.,
	c) Purpose	The outcomes as a result of the change,
	d) Assets	Assets impacted and how they are impacted e.g. modified, added or removed
	e) Affected documentation	List of affected technical documents and drawings to be updated and/or withdrawn as part of the change.
	f) Approval Date	The date the change was approved.
	g) Approval Authority	Who authorised the change.
	h) Authority Title	The title of the person approving the change.
	i) Change Manger	Name of the person managing the implementation of the change.
2.4	Changes must have a unique identifier.	
2.5	Changes must have an approval authority and a Change Manager and identified in the MOC.	
2.6	Changes must be approved at the correct level of authority before the implementation of the change.	
2.7	Records of consultation and communication with stakeholders must be managed and filed as evidence of these activities.	
2.8	All records must be accessible and comply with DPTI's obligations under the State Records Act and filed in the DPTI Records Management System.	
2.9	Impacted functional areas within Rail Operations as a result of a change must be consulted prior to the change approval and any impacts considered and addressed.	
2.10	Where projects are managed in a staged approach requiring a hand-back in operational portions a MOC must be raised for each staged portions. Prior to handback of each stage a baseline must be created which must be the basis of the next stage and changes.	

AMTD-PLANNING-1-2 - Planning

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	The number and type of plans to be developed must depend on complexity and size of the asset change(s) e.g. a minor change must have one plan which covers all minimum requirements but for larger changes must require several plans.
2.2	The minimum requirement for plan(s) must cover: <ul style="list-style-type: none"> a) Overview description giving justification and background, b) Purpose and detailed scope, c) Roles and responsibilities, d) Reference to the Management of Change number, e) References to any other plans if applicable.
2.3	Planning documentation must also ensure the following are described: <ul style="list-style-type: none"> a) Stakeholders and Impacted Parties and consultation the process, b) Implementation Approach, c) Safety Assurance approach, d) Risk Management including assessments, e) Technical, Engineering and Asset Management considerations must include: <ul style="list-style-type: none"> i. The detail of what is being added as new, modified or removed from the AMPRN including assets and technical documents and drawings, ii. Defect and liability management, iii. Spare parts and tools and iv. Maintenance planning including but not limited to maintenance schedules, through life support, asset replacement planning. f) Impacts to the Rail Risk Profile and/or Rail Accreditation (if applicable) g) Operational impact considerations must include: <ul style="list-style-type: none"> i. Impacts to safe work systems, ii. Operational processes, iii. Working timetable, iv. Resourcing and v. Training requirements.
2.4	The following plans must be required for changes to AMPRN asset configuration baseline: <ul style="list-style-type: none"> a) Handover Plan (see Sub-element AMTD-PLANNING-1-3 Asset Handover Planning), b) Management Plan Project and Contractor), c) Engineering Management Plan (Project and Contractor), d) Inspection, Testing and Commissioning Plan (refer to RW50) e) Engineering and Design Management Plan (refer to RW30) f) Safety Management Plan (see Sub-element AMTD-DESIGN-1-5 Safety Assurance Documentation), g) System and Safety Assurance Plan (refer to RW20) and h) Operational Readiness Plan
2.5	Plans must be included as part of the Deliverable Register. (see Sub-element AMTD-PLANNING-1-2).

AMTD-PLANNING-1-3 - Asset Handover Planning

1.	Preparation Instructions	
1.1	Generic Format and Content	
	This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .	
2	Specific Content	
2.1	An Asset Handover Plan must be developed and headings must be included as per the Asset Handover Plan template. See Knet 11288751.	
2.2	Headings must not be deleted from the Asset Handover Plan. If the section is not applicable then an explanation must be inserted stating the reason why it is not applicable.	
2.3	<p>Details of handover planning requirements must include:</p> <ul style="list-style-type: none"> a) Assets added, modified or removed from the Adelaide Metropolitan Passenger Rail Network (AMPRN)*, b) Associated technical documents*, c) Drawings*, d) Records*, e) Software*, f) Delivery and receiving parties, g) Roles and responsibilities, h) Timing and sequence and/or i) Any specific requirements and/or conditions. <p>Note: *Sections must make reference to separate documents but these documents must be delivered to Rail Infrastructure Management with the Handover Plan.</p>	
2.4	Rail Infrastructure Management must be notified as soon as it is known if any major changes will have an impact on commissioning, testing and/or handover. Also see Sub-element AMTD-INTEGRATE/TEST-1-1 Test and Commissioning Plans.	
2.5	Refer to Sub-element AMTD-HANDOVER-1-1 for Handover requirements detail.	
3	Tools and Templates	
3.1	a) Asset Handover Plan Template	Knet: 11288751 and
	b) Asset Handover Certificate Template	Knet: 11288622 .

AMTD-PLANNING-1-4 - Safety, Risk and Hazards

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	Risk Register
2.1.1	Risks must be identified, examined and analysed. This includes but not limited to: <ul style="list-style-type: none"> a) The nature of the risk, b) The likelihood of a risk occurring, c) Consequences should it be realised and d) Specify controls and procedures used to manage the risks, monitor and review those controls and procedures.
2.1.2	Individual risks must also require consideration as cumulative risks.
2.1.3	Use assessment methodologies that are appropriate to the risk(s) being considered.
2.1.4	Also refer to Sub-element AMTD-HANDOVER-1-4 Residual Risks/ Hazards.
2.2	Preliminary Hazard Assessment
2.2.1	A Preliminary Hazard Assessment (PHA) must: <ul style="list-style-type: none"> a) Identify all possible hazards, b) Detail hazards and potential accidents, c) Allocate ownership of controls and overall risks which must include, <ul style="list-style-type: none"> i. Description(s) of the action taken to remove the hazard or reduce the likelihood or severity to an acceptable level. Safety Related Requirements (associated linkage to requirements management process), ii. Safety Related Application Conditions (associated linkage to requirement management process), and d) Appropriate linkage to the Rail Commissioners Operation's Risk Profile(s).

7. AMTD-DESIGN – Design

AMTD-DESIGN-1-1 – Preliminary Product Breakdown Structure – Modified Baseline

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1.</p>
2	Specific Content
2.1	<p>The current product breakdown structure managed by DPTI Rail Infrastructure Management must be used as the basis to identify any modification(s), addition or removal of assets from the existing Adelaide Metropolitan Passenger Rail Network (AMPRN) asset configuration baseline.</p> <p>Note: DPTI Rail Infrastructure Management must provide a current PBS structure.</p>
2.2	The Product Breakdown Structure must consist of indenture levels starting at indenture level 1.
2.3	The indenture level must be used to identify relationships within the PBS eg the system will be 1, sub-systems indenture level 2 etc. according to the hierarchical breakdown.
2.4	It must be necessary to add more detail when defining any changes to the current PBS where detail of the structure is currently incomplete. Information must not be deleted or modified from the current PBS.
2.5	Any incorrect asset information must be noted in a separate column on the PBS.
2.6	<p>All new systems, sub-systems or assets added to the structure must have a part number except when they are created as parent placeholder within the PBS and is not a physical asset in the AMPRN.</p> <p>Note: Part numbers must be added to the Final Product Breakdown Structure. Refer to Sub-element AMTD-BUILD-1-8 – Final Product Breakdown Structure.</p>
2.7	<p>For traceability the asset status must be documented in the Preliminary PBS as either:</p> <p>a) New, b) Replaced e.g. Like for like changes, c) Modified or d) Decommissioned/disposed.</p>
2.8	Systems, sub-systems or assets must not be removed from the updated PBS. The assets must be marked as decommissioned and the record formatted as a font effect “Strikethrough”.
2.9	As part of defining the PBS it must be necessary to define the PBS structure to lower levels than supplied by DPTI Rail Infrastructure Management. Where additional assets are added to the PBS then they must meet the detail requirements of Sub-element AMTD-DESIGN-1-2 Product Breakdown Structure – Greenfield Projects and Sub-element AMTD-BUILD-1-8 Final Product Breakdown Structure.
2.10	The document/drawing number for technical documents and/or drawings must be included against any system, sub-system or asset. If referenced in the PBS then they must also be listed as per Sub-element AMTD-BUILD-1-3 – Technical Documents and Drawings.
2.11	The preliminary PBS defined during design must be finalised by the end of the build phase. Refer to Sub-element AMTD-BUILD-1-8 Final Product Breakdown Structure. It is expected that detail must be added progressively during the build phase prior to test and commissioning.
3	Tools and Templates
3.1	<p>a) EAMS Data PBS Loader Template</p> <p style="text-align: right;">Knet: 11721108.</p>

AMTD-DESIGN-1-2 – Preliminary Product Breakdown Structure – Greenfield Projects

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1.</p> <p>b) The PBS must be delivered as a Microsoft Excel spreadsheet.</p> <ol style="list-style-type: none"> The pages must be numbered with a page number and number of pages in the footer, The header must contain the report title, project details (if applicable), the document reference number, the issue number and the date of release of the register and The header details for each column must appear at the top of every page.
2	Specific Content
2.1	The Product Breakdown Structure (PBS) is described as a hierarchy of system, sub-system and assets.
2.2	Any new structures must be defined in consultation with DPTI Rail Infrastructure Management. Note: Consideration must also be given to any new systems, sub-systems and/or assets which may interface with current systems.
2.3	The Product Breakdown Structure must consist of indenture levels starting with indenture level 1.
2.4	The indenture level must be used to identify relationships within the PBS eg the system will be 1, sub-systems indenture level 2 etc. according to the hierarchical breakdown.
2.5	All new systems, sub-systems or assets added to the structure must have a part number except when they are created as parent placeholder within the PBS and is not a physical asset in the AMPRN. Note: Part numbers for new assets must be added to the Final Product Breakdown Structure. Refer to Sub-element AMTD-BUILD-1-8 – Final Product Breakdown Structure.
2.6	Any updated asset information must be noted against the asset in a separate column on the spreadsheet if current assets are re-used in a new system or sub-system.
2.7	The PBS must be defined as: <ol style="list-style-type: none"> Hierarchy (Indenture) Level The indenture level within the PBS starts at level 1 (Usually at the system/top level). Children of level 1 will be level 2, children of level 2 will be level 3 etc, Levels must be defined as a parent/child relationship and Every level in the hierarchy must have a parent system, sub-system or asset except the very top level.
2.8	Systems, subsystems and assets must be defined as: <ol style="list-style-type: none"> Reference Number: A reference number that is a unique identifier allocated to systems, sub-systems and assets of the PBS, Description: The description/name of the system, sub-system and/or asset, Parent Number: The reference number for the system, sub-system or asset on the next highest level of the hierarchy to which the system, sub-system or asset linked as a child system, sub-system or asset, HW, SW, FW: Description to distinguish assets between Hardware (HW), Software (SW) or Firmware (FW) and <p>Note: HW must always be the parent asset to SW and FW.</p> <ol style="list-style-type: none"> System, sub-system, asset Define if it a system, sub-system or asset.
2.9	Further details must be required at the end of the Build Phase. Refer to Sub-element AMTD-BUILD-1-8 Final Product Breakdown Structure for additional detail requirements.
2.10	The Preliminary PBS must be the basis for the Final PBS. It is expected that details required for the Final Product Breakdown Structure must be updated progressively throughout the Build Phase as the details become available.
3	Tools and Templates
3.1	a) EAMS Data PBS Loader Template Knet: 11721108 .

AMTD-DESIGN-1-3 - Waivers

1.	Preparation Instructions
1.1	Generic Format and Content
	a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element
2.	Specific Content
2.1	Waiver Register
2.1.1	A register of waivers must be maintained as a deliverable and must be listed on the Deliverables Register. (see Sub-element AMTD - GENERAL-1-2).
2.2.2	The waiver register must consist of:
	a) Waiver ID: The Waiver identification number,
	b) Waiver Title: A title which describes the waiver clearly and concisely,
	c) Waiver Initiator: The name of the person raising the waiver,
	d) Waiver Approver: The name of the person approving the waiver,
	e) Date Approved: The date which the waiver was approved,
	f) Document #: The standard or specification the waiver is against and
	g) Revision #: The revision number of the Document references as the standard of specification.
2.2	Waivers
2.2.1	Waivers raised must comply with PR-AM-GE-804 - Development and Approval of Engineering Waivers.
2.2.2	Waivers must be delivered in the template Refer to Knet 5717951 or equivalent.
2.2.3	Waivers must take into consideration the following as a result of the waiver:
	a) Any impact to inventory,
	b) Additional costs to be incurred,
	c) Are new procedures and/or work instructions going to be required,
	d) Does it have an impact to maintenance routines and schedules,
	e) Is the additional training required and
	f) Do changes to assets require Type Approval?
3	Tools and Templates
3.1	a) Waiver Template Knet 5717951 .

AMTD-DESIGN-1-4 - Design Decisions

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2.	Specific Content
2.1	Design Decisions must be documented in accordance with PTS-MU-10-EG-PRC-00000016 – Design Decision Records Procedure.
2.2	Each design record must be a “single subject”.
2.3	Each design record must be uniquely identified.
2.4	All design records must include the name of the author and must be approved by the Manager, DPTI Rail Infrastructure Management or delegate.
2.5	Design decision documents must be added to the Delivery Register Sub-element AMTD - GENERAL-1-2 and Sub-element AMTD-BUILD-1-3 Technical Documents and Drawing Register.
2.6	Type Approvals must be documented in accordance with AM4-DOC-000466 – Type Approval for Rail Products.

AMTD-DESIGN-1-5 - Safety Assurance Documentation

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2.	Specific Content
2.1	An assessment of safety/risk must be documented in a report e.g. Safety Assurance Report (SAR) or safety in design report including a safety assurance argument that SFAIRP can be demonstrated.
2.2	Safety documentation required must depend on the complexity of the change. At a minimum, the following documentation must be included as deliverable documentation: <ul style="list-style-type: none"> a) Minor change: <ul style="list-style-type: none"> i. Risk Summary Report. b) Moderate change: <ul style="list-style-type: none"> i. System and Safety Assurance Plan ii. Safety Case (progressive) including Hazard Log/Goal Structuring Notation, Operational Risk Register. iii. Operational Risk Register. c) Significant change: <ul style="list-style-type: none"> i. System and Safety Assurance Plan, ii. Safety Case (Progressive) including Hazard Log/Goal Structuring Notation, iii. Operational Risk Register iv. Independent Safety Assessment Design Report (Including audits) v. Independent Safety Assessment Operational Readiness Report.
2.3	Safety documentation and assurance must address: <ul style="list-style-type: none"> a) System and procedures for compliance to risk management obligations and b) Also see Sub-element AMTD-PLANNING-1.4 Safety, Risk, Hazards.
2.4	Safety Assurance Documentation must be identified and listed as part of the Document Delivery Register Sub-element AMTD - GENERAL-1-2 .
3.	Tools and Templates
3.1	a) Safety Impact Statement Knet 9497223 .

8. AMTD-BUILD – Procure and Construct

AMTD-BUILD-1-1 - Software

1.	Preparation Instructions
1.1	Generic Format and Content a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	Software Register
2.1.1	Details of any new or updated software installed on assets within the AMPRN must be provided as a Software Register.
2.1.2	The Software Register details must contain: <ul style="list-style-type: none"> a) Software Description: The name of the software, b) Software Version: The version of the software, c) Fitted to: Details of where the hardware (HW) asset the software is installed on. (eg part number, serial number and physical location), d) Software Supplier: The supplier of the software, e) Licence: The licence details of the software e.g. licence numbers, expiry dates. f) Software Source: Delivery mode e.g. web-download, CD, DVD, g) Service Level Agreement: Is there a service level agreement (yes or no) and h) Back-up support: Details of backup support e.g. contact details of who, phone numbers, email address, support hours etc. i) Safety Integrity Levels: Information relating to Safety Critical Software and associated Safety Integrity Level (and linkage to hardware argument).
2.2	Software Documentation
2.2.1	Release Notes must be supplied and contain: <ul style="list-style-type: none"> a) Name of the product released, b) Product Version Number, c) Overview of the product, d) Date of the release, e) File configuration details including name and version as part of the product release, f) System requirements, g) Installation instructions/notes and uninstall instructions (back-out instructions), h) Reference to User manual, i) Details of additions, removals, changes and fixes and j) Any known bugs.
2.2.2	Installation test, verification and validation procedures must be supplied. This must include checksum files for validation or similar.
2.2.3	Test Results must be provided as part of the final submission of any updated software.
2.2.4	Details of software releases must be documented using the DPTI Rail Infrastructure Management Version Description Document (VDD) template or document with the same details described.
2.3	Software / Product Breakdown Structure
2.3.1	Software must appear in the PBS as a child asset in relation to a system, sub-system or asset in the Product Breakdown Structure. Refer to Sub-element AMTD-DESIGN-1-1 Preliminary PBS Modified or Sub-element AMTD-DESIGN-1-2 Preliminary PBS Greenfield Projects and Sub-element AMTD-BUILD-1-8 Final Product Breakdown Structure.
2.3.2	Software loaded on the system as firmware must be identified as Firmware on the Software Register.
3.	Tools and Templates
3.1	a) Version Description Document Template Knet: 11555634 .

AMTD-BUILD-1-2 - Baselines

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1.</p>
2	Specific Content
2.1	Baselines must be maintained during development and implementation. They must be formalised at major milestones or hold-points. These milestones or hold points must be documented in a plan.
2.2	Contract and Issued For Construction baselines must be documented and associated documentation referenced in that documentation must be filed and accessible in the DPTI Record Management System (Knet).
2.3	<p>The As-built baseline must include:</p> <ul style="list-style-type: none"> a) Asset details including part numbers, serial numbers, mod states (if applicable) and description, b) Technical documentation and drawings for each associated system, sub-system and asset in the PBS including the technical document/ drawing number, title and current revision, c) Software identification, description and current version and d) Any outstanding approved changes.
2.4	<p>The final As-Built baseline must be a combination of the final:</p> <ul style="list-style-type: none"> a) Drawing/Document List refer to Sub-element AMTD-BUILD-1-3 Technical Document and Drawing Register, b) Software List refer to Sub-element AMTD-BUILD-1-1 Software Register and c) Final Product Breakdown Structure (PBS) with details of system, subsystem and assets. Refer to Sub-element AMTD-BUILD-1-8

AMTD-BUILD-1-3 – Technical Documents and Drawings

1.	Preparation Instructions
2.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	New technical documents and drawings must be delivered with an accurately completed Knet Docs to Knet Data Loader template for loading into the DPTI Rail Technical Library.
2.2	New and updates to existing technical documents and drawings must be controlled in accordance with FR-AM-GE-803 – Life Cycle Management of Technical Documents and Drawings.
2.3	Technical Documents and Drawing Register
2.3.1	A register must be maintained and controlled to reflect the current technical documents and drawings baseline.
2.3.2	A Technical Documents and Drawings Register must contain as a minimum the following fields: <ul style="list-style-type: none"> a) Document/drawing number, b) Title, c) Revision, d) Date of release, e) Status of each document e.g. approved, released for use, information only and f) Document Type is defined e.g. Drawing, Document.
2.3.2	Content and details on Technical Documents and Drawings Register must include Safety Assurance Documentation. Refer to Sub-element AMTD-DESIGN-1-5 and As-Built Drawings Sub-element AMTD-HANDOVER-1-3 .
2.4	Technical Documents
2.4.1	Technical document content must not be ambiguous and written clearly.
2.5	Drawings
2.5.1	All drawings must be delivered in editable DWG CAD files. Note: Drawings may also be delivered as models but must not be substituted for DWG deliverables.
2.5.2	Drawings must be delivered in accordance with the DPTI Drawing Standard AM4-DOC-00364 Drafting Standard for AutoCAD drawings for Rail Projects. DP001 Design Presentation – Construction Drawings – General Requirements must be applied to drawings applicable to road/third party components of a project.
2.5.3	Drawings must be delivered in DWG format that are bound and stand-alone drawings not needing external reference files.
2.5.4	Drawings must be delivered as individual DWGs and not combined sheets in one file.
2.5.5	Where multiples sheets are created, the drawing number must be unique for each sheet.
2.5.6	Where drawings are referenced to each other, the reference number must be in full e.g. not just a sheet number.
2.5.7	Drawings must be delivered with a completed Drawing Acceptance Form in accordance the Drawing Acceptance Procedure PTS-MS-05-DC-PRC-00000061.
3	Tools and Templates
3.1	a) Drawing Acceptance Form Template Knet 11259605 .
3.2	b) Knet Docs to Knet Data Loader Template Knet 11732492

AMTD-BUILD-1-4 - Records

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>The AMTD Sub-element must comply with the general format, content and preparation contained in AMTD - GENERAL-1-1 .</p>
2	Specific Content
2.1	Records must meet the requirements of the State Records Act, DP009 and in accordance to DPTI's Rail Record Disposal Schedule RSD2013/22.
2.2	Records must be complete, legible and reliable as evidence.
2.3	All record fields must be completed and must not be left blank e.g. if not applicable then the field should be documented in some way.
2.4	Asset Records must be traceable back to the system, sub-system and/or asset name, part number and/or serial number.
2.5	Official records must be defined as information and created, received and maintained as evidence and information by an agency or person, in pursuance of legal obligations or as a transaction of business.
2.6	Asset Records must clearly identify the system, sub-system and/or asset to which it is applicable.
2.7	<p>Asset Records must be delivered include, but not limited to:</p> <ul style="list-style-type: none"> a) Verification and validation records, b) Installation records, c) Commissioning records, d) Non-conforming records, e) Compliance Certificates, f) Registration Certificates, g) Test Certificates and/or h) Dilapidation surveys.

AMTD-BUILD-1-5 – List of Third Party Assets and Interfaces

1.	Preparation Instructions
1.1	Generic Format and Content
	a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	Third Party Assets
2.1.1	The List of Third Party Assets and Interfaces must contain: <ul style="list-style-type: none"> a) The relationship to the Adelaide Metropolitan Passenger Rail Network (AMPRN) system, sub-system and/or asset identifier e.g. alongside, under, interfaces etc. b) The name of the asset, c) Location of the asset, d) GIS Latitude Coordinate of the asset and e) GIS Longitude Coordinate of the asset.
2.2	Interface Agreements
2.2	Interface agreement detail must be provided with the following but not limited to: <ul style="list-style-type: none"> a) A description and details of the interface, b) Contact details including: <ul style="list-style-type: none"> i. Name of the contact, ii. Title of the contact and iii. Contact details including phone number and email address, c) Address of the organisation, d) Emergency contact phone number, e) Description of the locations of the interface, f) GIS Latitude Coordinate of the interface, g) GIS Longitude Coordinate of the interface, h) Type of interface e.g.: <ul style="list-style-type: none"> i. Rail/Rail, ii. Rail/Road, iii. Rail/Other.
2.3	Consideration to interfaces agreements must include: <ul style="list-style-type: none"> a) Is there a change to an existing agreement, b) Details to be captured include agreement responsibilities, c) Any agreements made as part of the project and/or d) Any licencing agreements where a service, management or maintenance is made by a particular party.

AMTD-BUILD-1-6 - Special Tools/Test Equipment

1.	Preparation Instructions																										
1.1	a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD-GENERAL-1-1 .																										
2	Specific Content																										
2.1	A list of Special Tools/Test Equipment Register must be supplied.																										
2.2	<p>Details on the Special Tools/Test Equipment Register must include:</p> <table> <tr> <td>a) Type:</td> <td>Special tool or test equipment,</td> </tr> <tr> <td>b) Part Number:</td> <td>The manufacturer's part number. If this is not available then the supplier number must be used,</td> </tr> <tr> <td>c) Serial number if applicable:</td> <td>Serial number if applicable,</td> </tr> <tr> <td>d) Part Description:</td> <td>Description of special tool or test equipment,</td> </tr> <tr> <td>e) Supplier Name:</td> <td>Supplier name,</td> </tr> <tr> <td>f) Supplier ABN:</td> <td>The Australian Business Number (ABN) is a unique number that identifies of the Supplier,</td> </tr> <tr> <td>g) Contact details of the supplier:</td> <td>Address, phone number and/or email address,</td> </tr> <tr> <td>h) Manufacturer's name:</td> <td>Name of the company who manufactured the special tool or test equipment,</td> </tr> <tr> <td>i) Manufacturer ABN:</td> <td>The Australian Business Number (ABN) is a unique number that identifies the manufacturer,</td> </tr> <tr> <td>j) Purchase Cost:</td> <td>Purchase cost of special tool and/or test equipment,</td> </tr> <tr> <td>k) Special storage conditions if applicable:</td> <td>Are there any storage conditions which need to be considered,</td> </tr> <tr> <td>l) Warranty End Date:</td> <td>Date warranty expires and</td> </tr> <tr> <td>m) Calibration Requirements:</td> <td>Specific calibration or certification requirements.</td> </tr> </table>	a) Type:	Special tool or test equipment,	b) Part Number:	The manufacturer's part number. If this is not available then the supplier number must be used,	c) Serial number if applicable:	Serial number if applicable,	d) Part Description:	Description of special tool or test equipment,	e) Supplier Name:	Supplier name,	f) Supplier ABN:	The Australian Business Number (ABN) is a unique number that identifies of the Supplier,	g) Contact details of the supplier:	Address, phone number and/or email address,	h) Manufacturer's name:	Name of the company who manufactured the special tool or test equipment,	i) Manufacturer ABN:	The Australian Business Number (ABN) is a unique number that identifies the manufacturer,	j) Purchase Cost:	Purchase cost of special tool and/or test equipment,	k) Special storage conditions if applicable:	Are there any storage conditions which need to be considered,	l) Warranty End Date:	Date warranty expires and	m) Calibration Requirements:	Specific calibration or certification requirements.
a) Type:	Special tool or test equipment,																										
b) Part Number:	The manufacturer's part number. If this is not available then the supplier number must be used,																										
c) Serial number if applicable:	Serial number if applicable,																										
d) Part Description:	Description of special tool or test equipment,																										
e) Supplier Name:	Supplier name,																										
f) Supplier ABN:	The Australian Business Number (ABN) is a unique number that identifies of the Supplier,																										
g) Contact details of the supplier:	Address, phone number and/or email address,																										
h) Manufacturer's name:	Name of the company who manufactured the special tool or test equipment,																										
i) Manufacturer ABN:	The Australian Business Number (ABN) is a unique number that identifies the manufacturer,																										
j) Purchase Cost:	Purchase cost of special tool and/or test equipment,																										
k) Special storage conditions if applicable:	Are there any storage conditions which need to be considered,																										
l) Warranty End Date:	Date warranty expires and																										
m) Calibration Requirements:	Specific calibration or certification requirements.																										
2.3	Operation and maintenance manuals must be supplied for any special tools or test equipment. Refer to Sub-element AMTD-MAINTENANCE-1-1 and Sub-element AMTD-OPERATIONS1-1 .																										

AMTD-BUILD-1.7 – Defects Register

1.	Preparation Instructions
1.1	Generic Format and Content a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	A Defects Register must be maintained to list and manage defects.
2.2	The Defects Register must be delivered in an editable format and not delivered as PDF version.
2.3	Defect lists must contain: <ul style="list-style-type: none"> a) The description of the defect, b) Actions to be taken, c) Name and title of who is responsible for auctioning and rectifying the defect, d) Type of defect and e) Status of the defect e.g. rectified, to be rectified.
2.4	As defects are rectified the status must be updated but the defect must not be deleted from the Defect Register. Note: Rectified defects may be moved to another sheet of the Excel spreadsheet.

AMTD-BUILD-1-8 – Final Product Breakdown Structure

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>a) This AMTD Sub-element must comply with the general format, content and preparation contained in sub-element AMTD - GENERAL-1-1.</p>
2	Specific Content
2.1	<p>The preliminary PBS must be defined as part of the Preliminary Product Breakdown Structures Sub-element AMTD-DESIGN-1-1 or Sub-element AMTD-DESIGN-1-2 as the following:</p> <p>a) System, sub-system, asset Is the item a system, sub-system or asset?</p> <p>b) Parent Number: The reference number for the system, sub-system or asset on the next highest level of the hierarchy to which the system, sub-system or asset is linked as a child,</p> <p>c) Reference Number A reference number that is a unique identifier allocated to a system, sub-system or asset in the PBS,</p> <p>d) Description The description/name of the system, sub-system and/or asset,</p> <p>e) HW, SW, FW Description to distinguish elements between Hardware (HW), Software (SW) or Firmware (FW) and</p> <p>Note: HW must always be the parent asset to SW and FW.</p>
2.2	<p>For the final PBS details must be added for each system, sub-system and asset and must include:</p> <p>a) Part Number: The part number of the asset,</p> <p>b) Serial Number: The serial number of the asset if applicable,</p> <p>c) Asset Status: Is the asset new, modified, moved or decommissioned,</p> <p>d) Repair/Replace: Is the system, sub-system or asset repairable or replaceable,</p> <p>e) Maintainable: Is the system, sub-system or asset maintainable with a maintenance schedule and tasks. If the asset is maintainable then Sub-element AMTD-MAINTENANCE-1-1 Section 2.1 is also applicable,</p> <p>f) Date Installed: The date that the system, sub-system or asset is installed into the system and became operational,</p> <p>g) Design Life: The expected design life applicable to the asset,</p> <p>h) Residual Life: Where assets are re-used the residual life of those assets,</p> <p>i) Latitude Coordinate: The location as per the Geographic Information System (GIS) reference in accordance the DPTI GIS requirements,</p> <p>j) Longitude Coordinate: The locations as per the Geographic Information System (GIS) reference in accordance the DPTI GIS requirements,</p> <p>k) Manufacturer: Name of Manufacturer,</p> <p>l) Manufacturer ABN: The Australian Business Number (ABN) is a unique number that identifies the manufacturer,</p> <p>m) Supplier: Name of Supplier if different to Manufacturer,</p> <p>n) Supplier ABN: The Australian Business Number (ABN) is a unique number that identifies the supplier,</p> <p>o) Purchase Price: Purchase cost of the element,</p> <p>p) Doc/Drawing Number: The technical document and/or drawing number(s) (where there are multiple),</p> <p>q) Inventory: Is the asset to be held in a store? Yes or No. If yes see 2.3.</p> <p>r) Corridor: List the corridor in which the asset is located. Corridors for train assets are: GC – Gawler Central BELA – Belair OUTH – Outer Harbor FLIN – Flinders (previously Tonsley) GRAN – Grange SEAF – Seaford DCY – Dry Creek Depot</p> <p>Corridors for train assets are: HIND – Hindmarsh GLEN – Glenelg GGY – Glengowrie Depot</p>

2.3	Asset attributes (specification items to be recorded) must be defined by Rail Infrastructure Management Engineering teams in consultation with the project and contractor.
2.4	Where assets are identified as inventory then the following information must also be supplied. a) Issue Unit: Unit type for issue eg each, roll, b) MSDS: The Material Safety Data Sheet reference number, c) Storage Conditions: Details of any specific storage requirements, d) Handling: Details of any specific handling requirements, e) Lead Time: Lead time for long lead time items and f) Holding Levels: Maximum or minimum holding levels.
2.5	The document/drawing unique identifier for technical documents and/or drawings must be included against any system, sub-system or element. If referenced against the PBS then they must also be listed as per Sub-element AMTD-BUILD-1-3 technical documents and drawings.
2.6	Warranty details for any new assets added to the PBS must be supplied. Details must be supplied includes: a) Warranty expiry date and b) Details of contact for warranty issues/claims including name of contact, address, phone and email address.
2.7	The Final PBS must have the same unique identifier and be an up-version of the Preliminary Product Breakdown Structure.
2.8	The completion of system, sub-system and asset details on the Final Product Breakdown Structure must be completed at the end of the Build phase.
3	Tools and Templates
3.1	a) EAMS Data PBS Loader Template Knet: 11721108 .

9. AMTD-INTEGRATE/TEST – Test

AMTD-INTEGRATE/TEST-1-1 - Test and Commissioning

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>This AMTD Sub-element must comply with the general format, content and preparation contained in AMTD - GENERAL-1-1</p>
2	Specific Content
2.1	Depending on the size and complexity of the change(s) Test Plans and Test Procedures must be developed.
2.2	<p>Test and Commissioning Plans and Test Procedures must include but not limited to details of:</p> <ol style="list-style-type: none"> Customer, Contract Number, Contract or Project Name, Organisation conducting the testing, Reference to Requirement/Standard/Specification, Test Activity details, Method of testing or test procedure, Acceptance Criteria, Who will be conduct the testing and sign off, Details of the system, sub-system and assets are to be tested, Details of test equipment and calibration requirements and/or Applicable hold points.
2.3	Details of any staged testing programs must be documented in a Test and Commissioning Plan including timing and dependencies.
2.4	Plans must include test and commissioning principles, program requirements and procedures.
2.5	Interfaces and/or constraints with other systems must be considered when planning test and commissioning activities.
2.6	<p>Levels of testing must be dependent of the level of change (systems, sub-systems, assets). Typical inspection and testing and therefore testing and commissioning plans must include planning for:</p> <ol style="list-style-type: none"> Factory Acceptance Testing (FAT): Testing at asset or component level by manufacturers and/or suppliers, Installation and Operational Testing: Testing completed after the asset or component has been installed and tested of any design or interface errors prior to Site Acceptance Testing (SAT), Interface Testing: Testing of interfaces to ensure the assets or components operate safely and effectively across the defined interfaces, Site Acceptance Testing (SAT): SAT is undertaken once the asset or component has been installed and includes the inspection, testing and validation to ensure that they are working as intended, System Integrity Testing (SIT): SIT provides an integrated approach to testing prior to going live with assurance that the system is operating safely and effectively and provides an opportunity to rectify any issues as a result of testing and Final System Acceptance Testing (FSAT): This is the final acceptance testing prior to moving the system back into an operational state and commissioning into service.

AMTD-INTEGRATE/TEST-1-2 - Test Reports

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	Test Reports
2.1.1	Test Reports must contain but not limited to: <ul style="list-style-type: none"> a) Reference to the system, sub-system and/or assets the report is applicable to, b) Part and serial (where applicable) must be referenced and identifiers and descriptions the same as listed in the Product Breakdown Structure, c) Description of testing performed, d) Title and name of testing authority, e) Date of Test and f) Verification and testing activities performed.
2.2	Test Results
2.2.1	Test results must comply with the requirements of Sub-element AMTD-BUILD-1-4 Records.
2.2.2	Test results must be submitted as separate deliverables.
2.2.3	Test results must not be included as part of deliverable maintenance manuals.
2.2.4	Test Result details must include but not limited to: <ul style="list-style-type: none"> a) Details of what was tested eg asset, component, sub-system, system etc, b) Reference to the system, sub-system and/or assets the report is applicable to, c) Part and serial (where applicable) must be referenced and identifiers and descriptions the same as listed in the Product Breakdown Structure, d) Details of the test, e) Date of Test, f) The organisation conducting the testing, g) Name and title of tester and h) Name and title of any test witness (s).

10. AMTD-HANDOVER – Commissioning and Handover

AMTD-HANDOVER-1-1 - Handover

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD-GENERAL-1-1.</p>
2	Specific Content
2.1	Asset handover must be planned during the planning stages of a change to the AMPRN. Refer to Sub-element AMTD-PLANNING-1-3 .
2.2	At Asset Handover the Manager, DPTI Rail Infrastructure Management must be satisfied that all the deliverable items have been delivered and an Asset Handover Certificate has been completed prior to asset handover.
2.3	<p>Prior to handover the following must have been submitted to DPTI Rail Infrastructure Management:</p> <ul style="list-style-type: none"> a) Applicable Standards: Where assets are new or have been modified the applicable standards are to be identified, b) Training & Familiarisation: Refer to Sub-element AMTD-OPERATIONS1-2, c) Waivers: Refer to Sub-element AMTD-DESIGN-1-3, d) Design Decisions: Refer to Sub-element AMTD-DESIGN-1-4 e) Management of Change: Refer to Sub-element AMTD-PLANNING-1-1, f) Product Breakdown Structure: Refer to Sub-element AMTD-BUILD-1-8, g) Maintenance Manuals: Refer to Sub-element AMTD-MAINTENANCE-1-1, h) Asset Modification Report: Refer to Sub-element AMTD-BUILD-1-8, i) Software: Refer to Sub-element AMTD-BUILD-1-1, j) IFC Design Baseline: Refer to Sub-element AMTD-BUILD-1-2, k) Special Tools: Refer to Sub-element AMTD-BUILD-1-7, l) Spares: Refer to Sub-element AMTD-DESIGN-1-1 and Sub-element AMTD-DESIGN-1-2, m) Safety Assurance: Refer to Sub-element AMTD-DESIGN-1-5, n) Test and Commissioning: Refer to Sub-element AMTD-INTEGRATE/TEST-1-1 Test Plan. Refer to Sub-element AMTD-INTEGRATE/TEST-1-2 Test Reports, o) Operation Manuals: Refer to Sub-element AMTD-OPERATIONS1-1 and p) Training Material: Refer to Sub-element AMTD-OPERATIONS1-2.
2.4	<p>At handover the following must have been submitted to DPTI Rail Infrastructure Management.</p> <p>These include:</p> <ul style="list-style-type: none"> a) Defect List: Refer to Sub-element AMTD-BUILD-1-7, b) As-Built Drawings: Refer to Sub-element AMTD-BUILD-1-3, c) Punch List: Refer to Sub-element AMTD-HANDOVER-1-2, d) Certificate of Signalling: A Certificate of Signalling is to be supplied where signalling assets and systems (and interfaces if applicable) are affected by the changes to the AMPRN, e) Certificate of Tram/Train Running Infrastructure: A Certificate of Tram/Train Running Infrastructure is to be completed prior to handover, f) Certificate of Train/Tram Running Overhead: A Certificate of Tram/Train Running Overhead is to be completed prior to handover where Overhead is affected by changes to the AMPRN, g) Residual Risk/Hazards: Refer to Sub-element AMTD-PLANNING-1-4 Risk and Sub-element AMTD-HANDOVER-1-4 Residual Risk, h) Engineering Notice: Engineering Notices are internal notices distributed to communicate engineering changes involving alterations to existing assets or the introduction of new infrastructure or rolling stock. Communication is generally to Operational, Engineering and Maintenance staff, i) Employee Notice: General notification to all employees and j) Network Notice: Network notices are communication to ensure the safe working activities, advice of work on track and new speed restrictions if applicable from an operational requirement which are communicated through daily train notices.
2.5	A Handover Certificate must be completed using the Handover Certificate Template (Knet 112288622).
3	Tools and Templates
3.1	a) Handover Certificate Template Knet 112288622

AMTD-HANDOVER-1-2 - Punch Lists

1.	Preparation Instructions
1.1	Generic Format and Content
	a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2.	Specific Content
2.1	Punch lists must include, but not limited to: <ul style="list-style-type: none"> a) List of outstanding physical assets to be delivered, b) List of outstanding configuration/technical documentation and drawings to be delivered, c) Documenting any outstanding testing to be conducted, d) Identifying and documenting outstanding training and/or e) Missing Configuration details.
2.2	Consideration of any changes to the DPTI Risk Profile must be considered depending on the number and type of issues still outstanding.

AMTD-HANDOVER-1-3 - As-Built Drawings

1.	Preparation Instructions
1.1	Generic Format and Content
	<p>a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 and</p> <p>b) Format and delivery requirements must also comply with Sub-elements AMTD-BUILD-1-3 Technical Documents and Drawings.</p>
2.	Specific Content
2.1	As-Built drawings must be a reflection of the network configuration at the time test and commissioning, prior to Handover.
2.2	The As-Built drawings at the end of test and commissioning may consist of marked-up drawings. This must be agreed with DPTI Rail Infrastructure Management prior to Hand-over during handover planning and documented in the Handover Plan. The As-Built CAD drawings must be delivered as identical to any test and commissioning marked up drawings.
2.3	Changes to the As-built baseline post-test and commissioning must be reflected as an updated version of test and commissioning drawings.
2.4	The reason for any changes to drawings from those delivered at test and commissioning must not only be up-versions but the reason for update clearly noted in the revision history.
2.5	Drawings must be delivered with a completed Drawing Acceptance Form in accordance the Drawing Acceptance Procedure PTS-MS-05-DC-PRC-00000061.
3	Tools and Templates
3.1	a) Drawing Acceptance Form Template Knet 11259605 .

AMTD-HANDOVER-1-4 - Residual Risk/ Hazards

1.	Preparation Instructions
1.1	Generic Format and Content
	a) This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	A residual risk register must be established.
2.2	Details of the risks must be agreed by DPTI Rail Infrastructure Management and transferred after test and commissioning and must be detailed in the risk register.
2.3	Possible mitigation plans and recommendations must be documented.
2.4	Special operational and maintenance conditions to lower the risk must be documented in the risk register.

11. AMTD-OPERATIONS**AMTD-OPERATIONS-1-1 - Operations**

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2.	Specific Content
2.1	Operational instructions must include but not limited to: <ul style="list-style-type: none"> a) Site specific operational instructions, b) Design and operational limits, c) Safe working / operational practices and procedures, d) Basic operational condition under which assets, special tools and/or test equipment must operate, e) Various operating parameters such as temperature, humidity, wind speed or other limits, f) Details of safety precautions, hazardous material/situations, fire risk or any occupational health related risk associated with assets, special tools or test equipment, g) Operation of any control system, hardware and/or software, h) Any other information to ensure the safe and efficient operation of assets, special tools or testing equipment, i) Fault finding of critical components and j) Procedures for shutdown, start up and emergency shutdown for operation.
2.2	Operation manuals must be delivered separately for each individual assets, special tools or testing equipment unless there is inter-dependency with other assets within the sub-systems or systems for operational purposes.
2.3	If the Operation Manual is applicable to multiple components/assets within a sub-system or system then the Operation Manual must have table of contents listing those components/assets.
2.4	The Operations manual must not have quality records inserted into the manual. Records must be delivered separately.

AMTD-OPERATIONS-1-2 - Training

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1
2.	Specific Content
2.1	Training Material
2.1.1	Training material must include training for the following activities: <ul style="list-style-type: none"> a) Inspection, b) Maintenance and c) Operations.
2.1.2	Training information for inspection, maintenance and operations must be for theoretical and practical. The training information must include but not be limited to: <ul style="list-style-type: none"> a) System design overview, b) Operating Principles, c) Fault Monitoring, d) Maintenance and fault finding procedures must include, but not limited to: <ul style="list-style-type: none"> i. Preventative and corrective maintenance tasks, ii. Fault repair to the lowest level of replaceable unit and iii. The employment and use of maintenance aids, diagnostic and test equipment. e) Software maintenance must include: <ul style="list-style-type: none"> i. Database structure and generation, ii. System software organisation and iii. Fault diagnosis on application software.
2.1.5	A list of required competencies must be delivered with training and assessment material.
2.1.6	All training delivered other than “overview” or “familiarisation” training must be competency based.
2.1.7	Available training must be assessed in accordance with any qualification and units of competence recognised under the AQF application to that rail safety work and in accordance the the Rail Safety National Law Act (South Australia) 2012 Subdivision 4 – Provisions relating to rail safety workers, 117 – Assessment of competence.
2.1.8	The training information must also include measures to assess the effectiveness of the training.
2.1.9	Training material must be in English.
2.1.10	Deliverables must include but not limited to: <ul style="list-style-type: none"> a) Training Needs Analysis – to determine current skill set and competency gap and any pre-requisites required. b) Training and Implementation Plan, c) Session Plans, d) Training Manuals, Power Point Presentations and material, e) Training Records, f) Facilitators Guide, g) Attendance sheets, h) Copy of assessments undertaken (where certificates of competency are not issued assessment sheets must be retained) and i) Training feedback forms.
2.1.11	Training Material must be delivered in electronic native and PDF format.

2.1.13	Electronic training manuals and resources must be printable and hardcopy identical to the electronic format.
2.2	Training Plan
2.2.1	<p>A Training Plan must be delivered and must describe:</p> <ul style="list-style-type: none">a) How training will be carried out and assessed,b) The training goals (outcomes) and learning objectives (competencies),c) How training assessment and validation must be captured as evidence,d) How training records must be controlled and managed,e) What training material must be developed with timeframes for development, review, delivery and assessments,f) How training material must be reviewed by DPTI prior to delivery,g) Roles and responsibilities including trainer and/or assessor qualifications and experience,h) Any resource requirements.

12. AMTD-MAINTENANCE – Maintenance

AMTD-MAINTENANCE-1-1 - Maintenance

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .</p>
2	Specific Content
2.1	Maintenance Manuals
2.1.1	Maintenance manuals must be delivered for all maintainable assets as defined in the Final Product Breakdown Structure Sub-element AMTD-BUILD-1-8 .
2.1.2	Maintenance manuals must be delivered separately for each individual system, sub-system, assets, special tools or testing equipment unless there is inter-dependency with other assets within the systems and sub-systems for maintenance purposes.
2.1.3	If the maintenance manual is applicable to multiple assets within a system or sub-system then the maintenance manual must have a table of contents listing each asset.
2.1.4	Systems, sub-systems and asset identifiers and descriptions referenced in Maintenance Manuals must match the identifiers and descriptions as listed in the Preliminary and Final PBS. Refer to Sub-element AMTD-DESIGN-1-1 , Sub-element AMTD-DESIGN-1-2 and Sub-element AMTD-BUILD-1-8 .
2.1.5	<p>Maintenance manuals must include but not limited to:</p> <ul style="list-style-type: none"> a) Detailed maintenance procedures or tasks, b) Detailed description of systems, sub-systems, assets, special tools and/or test equipment, c) Maintenance guidelines, d) Safety and hazardous material warnings, e) Failure Mode Effect Analysis (FMEA)/ Fault finding or critical components if applicable, f) Reliability, Availability, Maintainability requirements, g) Description of any fault codes, trouble-shooting faults, causes and remedies, h) Maintenance schedules for inspection and servicing, i) Procedures for shutdown, start up and emergency shut-down for maintenance, j) Information regarding safety alarms and any trip settings, k) Any occupational health and safety related information and l) Any other information to ensure the safe and efficient maintenance of the asset, special tools and/or test equipment.
2.1.6	Maintenance manual must not have quality records inserted into the manual. Records must be delivered separately.
2.1.7	Technical drawings must not be imbedded into maintenance manuals. Drawings must be controlled separately.
2.2	Maintenance Plans
2.2.1	Maintenance details must be developed in maintenance plans for maintainable assets, special tools and test equipment.
2.2.2	<p>Maintenance Plans must include at a minimum:</p> <ul style="list-style-type: none"> a) Identification details and description of the part, component, sub-system or system the maintenance plan is applicable to, b) Inspection and preventative maintenance schedules and frequencies, c) Preventative Maintenance procedures including levels of maintenance, d) Maintenance checklists, e) List of maintenance activities and f) Details of any specialist test or maintenance equipment.

2.3	Maintenance Information
2.3.1	<p>The Maintenance information must be delivered in a Microsoft Excel spreadsheet:</p> <ul style="list-style-type: none"> a) The pages must be numbered with a page number and number of pages in the footer, b) The header must contain the report title, project details (if applicable), the document reference number, the issue number and the date of release of the register and c) The header details for each column must appear at the top of every page.
2.3.2	<p>Information must be extracted from Maintenance Manuals for maintainable assets for the loading of this information into the DPTI Rail Infrastructure Management EAMS. Refer to the Maintenance Information Data Loader Template – Knet 11725312.</p> <p>The Maintenance information must as a minimum contain:</p> <ul style="list-style-type: none"> a) Asset Number: The asset number must be as listed on the PBS. b) Asset Description: The asset description must be listed as the description of the asset number on the PBS. c) Frequency of Maintenance: How often the maintenance must be conducted eg weekly, monthly, annually etc. d) Task Classification: Is the maintenance inspect, measure, adjust, replace, overhaul etc. e) Task Description: Description of how that maintenance task is to be undertaken. f) Maintenance Manual Reference: The document identifier as listed on the final PBS Sub-element AMTD-BUILD-1-8, the Deliverables Register Sub-element AMTD - GENERAL-1-2 and register of technical documents and drawings Sub-element AMTD-BUILD-1-3. g) Maintenance Manual Title: Title of the Maintenance Manual must be listed on the Deliverables Register Sub-element AMTD - GENERAL-1-2 and register of technical documents and drawings Sub-element AMTD-BUILD-1-3 h) Required special tools/equipment: Any specials tools or equipment required to conduct the maintenance tasks. These must also be listed on the Special Tools/Test Equipment Register Sub-element AMTD-BUILD-1-6. i) Required materials: Any materials required as part of the maintenance activities.
3	Tools and Templates
3.1	a) Maintenance Information Data Loader Template Knet: 11725312

AMTD-MAINTENANCE-1-2 - Maintenance Contracts

1.	Preparation Instructions
1.1	<p>Generic Format and Content</p> <p>This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1.</p>
2	Specific Content
2.1	<p>Maintenance contracts must be applicable if a third party is responsible for the maintenance of systems, sub-systems, assets, special tools and/or test equipment.</p> <p>Contract details must include but not limited to:</p> <ul style="list-style-type: none"> a) Contract identification number, b) Organisation conducting the maintenance, c) Start and end date of the contract, d) Contract details including business hours and call out fees of the third party, e) Details of the maintenance activities, f) Details of responsibilities for any replacement of critical parts or consumables, g) Future maintenance plans after contract finish and h) Warranty terms and conditions including storage and/or operational warranties.
2.2	<p>Maintenance contracts must be summarised in a register. The register must list as a minimum:</p> <ul style="list-style-type: none"> a) The contract identification number, b) Name of the organisation and c) Start and end date of the contract.

13. AMTD-DISPOSAL – Decommissioning**AMTD-DISPOSAL1-1 - Decommissioning/ Disposal**

1.	Preparation Instructions
1.1	Generic Format and Content This AMTD Sub-element must comply with the general format, content and preparation contained in Sub-element AMTD - GENERAL-1-1 .
2	Specific Content
2.1	Disposal/Decommissioning Plans
2.1.1	The Decommissioning/Disposal Plan must describe systems, sub-systems and assets to be removed from the AMPRN asset configuration baseline.
2.1.2	Details in the Decommissioning/Disposal Plan must include: <ul style="list-style-type: none"> a) Asset Reference number: The unique identifier allocated from the DPTI Rail Infrastructure Management EAMS. Also known as the EAMS number, b) Asset Common Name: The description of the asset, c) HW, SW, FW: The type of asset e.g. is it hardware, software or firmware, d) Location: The asset geographical location, e) Asset Part number: The asset part number if applicable, f) Asset Serial number: The asset serial number if applicable, g) GIS Latitude Coordinate: The Geographical Information System (GIS) reference in accordance to DPTI GIS requirements, h) GIS Longitude Coordinate: The Geographical Information System (GIS) referenced to DPTI GIS requirements and i) Parent Asset Number: Asset reference number where the asset is a child of a parent asset.
2.1.3	The plan must include activities, schedule and timing of associated disposal and/or decommissioning of assets.
2.1.4	Inventory and parts in stores must be identified to be retired or removed as being the end of their operational life or no longer required.
2.1.5	Evidence must be supplied that the person decommissioning assets has ensured that the decommissioning has been carried out safely and the appropriate testing and examination with consideration to any associated risks which must have their own supporting safety case/ assurance documents.
2.2	Disposal/Decommissioning Register
2.2.1	Any child assets of a decommissioned/disposed assets must also be listed in the Decommissioning/Disposal Report.
2.3	Disposal/Decommissioning Notification
2.3.1	Once a system, sub-system or asset is taken out of service DPTI Rail Infrastructure Management must be notified so that any current Preventative Maintenance Schedules and the generation of work orders are stopped in the Asset Management System.
2.3.2	Decommissioned systems, sub-systems and/or assets must be identified on the Management of Change (MOC) and noted that they are to be decommissioned.

14. Supporting Information

14.1. Related Documents

DOCUMENT NUMBER	DOCUMENT NAME
AM4-DOC-000466	Type Approval for Railway Products
AM4-DOC-000938	Asset Information and Register Requirements
AM4-DOC-000939	Rail Asset Product Configuration Information Requirements
AM4-DOC-000940	Rail Asset Handover Requirements Standard
AM4-DOC-000943	Configuration Management Guideline
AM4-DOC-000944	Configuration Management Plan
AM4-DOC-000364	Drafting Standard for AutoCAD drawings
DP001	Design Presentation - Construction Drawings
FP022	Asset Disposals, Transfers and Impairments
FR-AM-GE-803	Lifecycle Management of Technical Documents and Drawings
FR-AM-GE-806	Identification and Numbering of Technical Documents and Drawings
FR-BS-GE-678	Contract Management Framework
FR-SR-GE-002	Integrated Safety Management System Framework
Knet 10501019	Rail Commissioner Safety Interface Coordination Process Flow
PL-AM-GE-000383	Rail Infrastructure Management Strategic Asset Management Plan
PL-RO-GE-655	Business Continuity & Recovery Plan – Rail Operations
PL-SE-EM-199	Emergency Management and Business Continuity Plan
PR124	Asset Disposal Guideline
PR613	Work Health and Safety: Disposal of Plant
PR-AM-GE-614	Changes to the AMPRN Asset Baseline
PR-AM-GE-804	Development and Approval of Technical Standards and Waivers
PR-AM-GE-807	Development and Approval of Engineering Waivers
PR-SR-IC-085	3 rd Party Incident Management
PR-SR-MC-906	Management of Change Procedure
PR-RC-RM-004	Rail Safety Risk Management
PTS-MS-05-AM-PRC-00000091	Asset Management Data Definition Procedure
PTS-MS-05-DC-PRC-00000061	Drawing Acceptance Procedure
PTS-MS-10-EG-PLN-00000017	System Engineering Management Plan
PTS-MS-10-EG-PRC-00000023	Design Life-cycle Management Procedure
PTS-MS-10-EG-PRC-00000032	Approval of Technical Standards and Waivers Procedures
PTS-MU-10-EG-PRC-00000016	Design Decision Records Procedure
RDS 2013/2	Records Destruction Schedule - Department of Planning, Transport and Infrastructure Public Transport Services Division (Effective Date 14 October 2014 – 30 June 2025)
RG-SR-IC-157	Safety Interface Agreements

14.2. Tools and Templates

KNET NUMBER	DESCRIPTION
11719321	Generic Document Transmittal Template
11326516	Change Management Plan Template
11706787	Asset Changes – Checklist
11288751	Asset Handover Plan Template
11288622	Asset Handover Certificate
11721108	EAMS Data PBS Loader Template
5717951	Waiver Template
9497223	Safety Impact Statement
11555634	Version Description Document (VDD) Template
11725312	Maintenance Information Data Loader Template
11259605	Drawing Acceptance Form (FO-AM-GE-1014)
112288622	Handover Certificate Template
11732492	Knet Docs to Knet Data Loader Template

14.3. References

- *Rail Safety National Law (South Australia) Act 2012*
- *Schedule 1 of the National RSNL Regulations 2012*
- *National Rail Safety Regulator*
 - *Asset Management Guideline V 1.0 Nov 2014*
 - *Preparation of a Rail Safety Management System Guideline V1.0 20 January 2013*
 - *Major Projects Guideline*
 - *Effective Control and Management of Rail Operations Guideline*
 - *Meaning of Duty to ensure safety as far as reasonably practicable – SFAIRP Guideline*
- *Freedom Of Information Act 1991 of South Australia*
- *South Australian State Records Regulations 2013*
- *State Records Act 1997*
- *Work Health and Safety Act 2012 (SA)*

14.4. Definitions and Acronyms

TERM	DEFINITION
ABN	Australian Business Number
AMTD	Asset Management Technical Data
AMPRN	Adelaide Metropolitan Passenger Rail Network
Asset	rotables, non-rotables, tools, spare parts, assemblies, components, software
CIL	Configuration Items List also known as the Product Breakdown Structure (PBS)
DPTI	Department for Planning, Transport and Infrastructure.
EAMS	Enterprise Asset Management System
FM	Firmware
FMEA	Failure Mode Effect Analysis
GIS	Geographic Information System
Greenfield Project	A project to add new infrastructure which has not been previously built, commissioned or

TERM	DEFINITION
	operable.
HW	Hardware
MOC	Management of Change
Parent Asset	An asset which has child elements as part of its hierarchy.
PBS	Product Breakdown Structure also known as a Configuration Item List (CIL)
PDF	Portable Document Format
PHA	Preliminary Hazard Assessment
RAM	Reliability, Availability, Maintainability
RDS	Record Disposal Schedule
Rail Operations	The construction of a railway, railway tracks, and associated rail track structures, the construction of rollingstock, the management, commissioning, maintenance, repair, modification, installation, operation or decommissioning of rail infrastructure and the commissioning, use modification, maintenance, repair or decommissioning of rolling stock.
SFAIRP	So Far As Is Reasonably Practicable
SMS	Safety Management System
SW	Software
Sub-system	A lower level child system of a system.
VDD	Version Description Document