Signalling Standards Induction

TECHNICAL STANDARDS

Last Updated: March 2021
Version: 4.0

BEFORE STARTING THE INDUCTION

Is this your first attempt at the Induction:

Yes - continue to next slide

No - see below

If you are not successful in your first attempt, it is suggested to review the Signalling Standards Induction again.

This will familiarise yourself with the ARTC Standards Extranet page and specifically with ARTC Signalling Procedures before retaking the Induction.

INTRODUCTION

- All personnel who work on ARTC signalling infrastructure are required to undertake tasks in accordance with ARTC standards and procedures.
- This induction provides information about the range of ARTC signalling standards documentation.
- It details how they can be found.
- It also provides details of the structure of the documents and how updates are indicated.

INTRODUCTION

- All personnel working on ARTC signalling infrastructure shall have an ARTC Signals Statement of Competency.
- Personnel are required to complete this induction, then successfully complete the Signalling Standards Induction Assessment.
- This is a prerequisite for gaining an ARTC Signalling Statement of Competency.

PURPOSE AND AUDIENCE

Signalling Competency requirement

- Signals staff submitting for the following ARTC Signals Statements of Competency are required to successfully complete the Signals Standards Induction and the Induction Assessment. See EST-20-03.
  - F1 Senior Signal Engineer
  - F2 Signal Design Engineer
  - F3 Signal Maintenance / Construction Engineer (Manager)
  - F4 Signal Electrician/Maintainer
  - F5 Signal Electrical and Mechanical
  - F6 Signal Installer / Tester
  - F7 Signals Mechanical
  - F8 Control Systems / Communications Engineer
  - F9 Control Systems / Communications Technician

- Applicants for ***F10 Trades and Assistants*** are not required to successfully undertake the Induction and Assessment. However, there are advantages to these staff in understanding the ARTC signalling standards.
- Apprentice Signal Technicians are required to undertake the Induction and Assessment.

PURPOSE AND AUDIENCE

Purpose of Induction

- Assist signalling staff to navigate the ARTC Engineering Extranet.
- Help signalling staff to identify and access key signalling standards and supporting documentation.
- This is part of the competency assessment for signalling staff who undertake work for ARTC.

Audience

- Design Engineer
- Construction Engineers
- Commissioning Engineers
- Test Engineers
- Team Leaders
- Project Managers
- Signals Maintenance staff

CONTENT

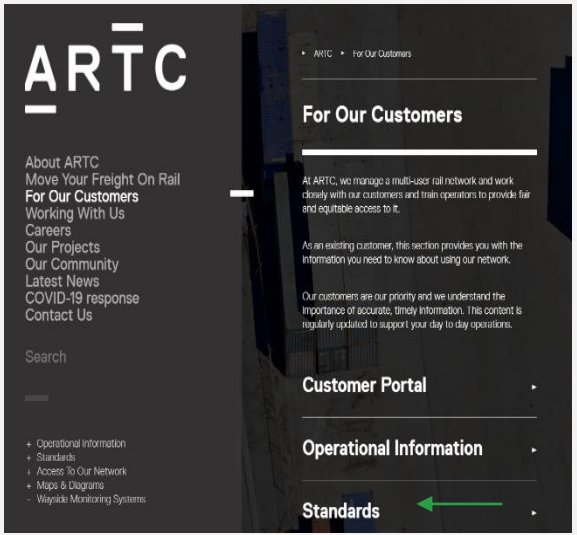
We recommend that you navigate the ARTC Engineering Extranet while working through this induction. This will help you to become familiar with the layout and content of ARTC's signalling standards and documentation.

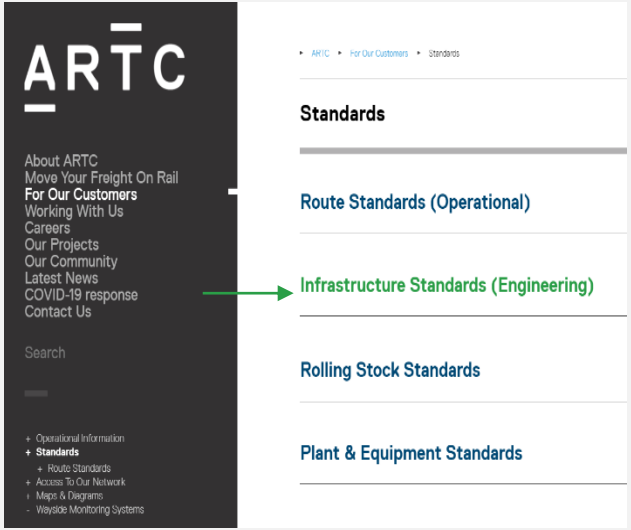
This induction covers:

- Accessing the ARTC Engineering Extranet
- Recent Change Register
- Signalling Standards and Procedures
  - Forms
- Region based Signalling Standards
- Engineering Policies and Procedures
  - Configuration Management
  - Forms for Engineering Procedures
- Technical Bulletins
  - Engineering Notes/Manuals
  - Engineering Instructions
  - Engineering Bulletins
  - New Equipment and Systems Approvals
  - Waivers
- Drawing Management System

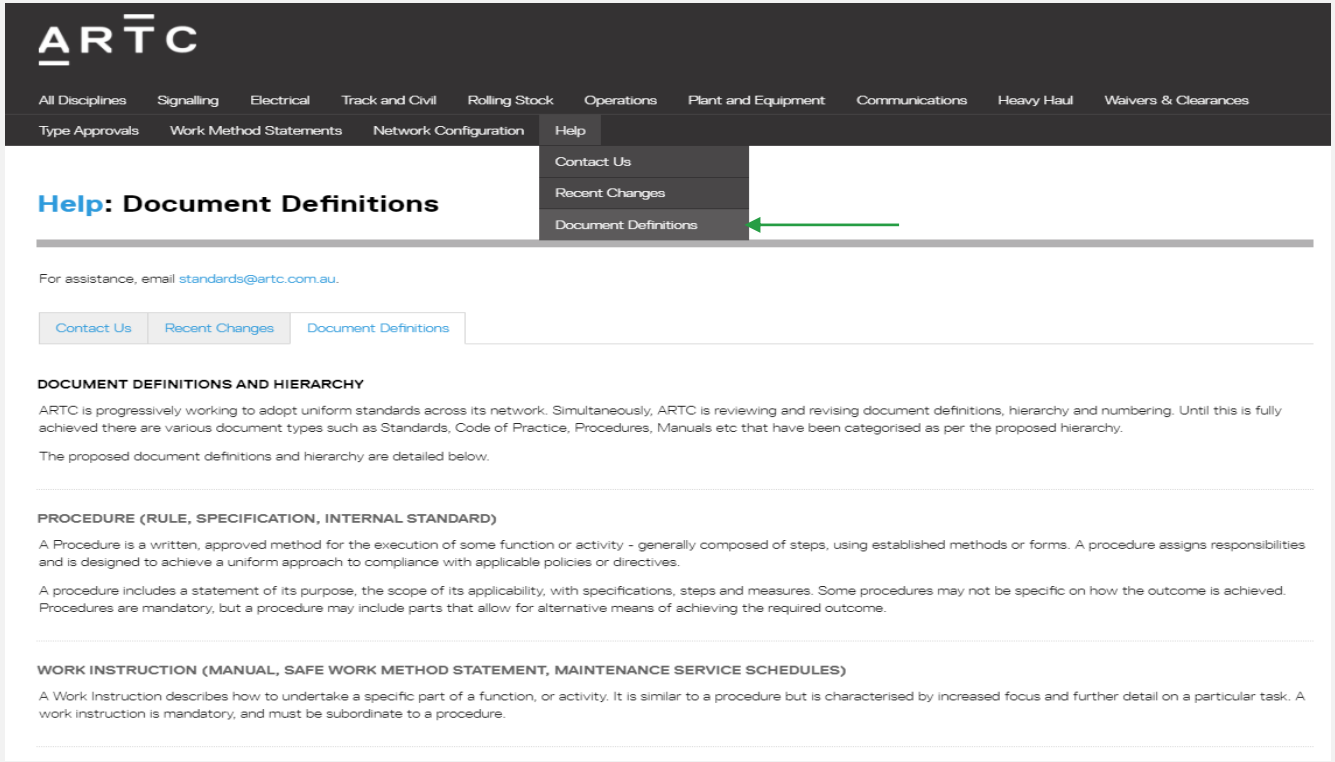
COMPLETING THE INDUCTION

- To complete this induction, you will require a computer with access to the Internet.
- Access the ARTC website via www.artc.com.au.
- Select For Our Customers > Standards > Infrastructure Standards (Engineering). This will take you to the ARTC Engineering Extranet.



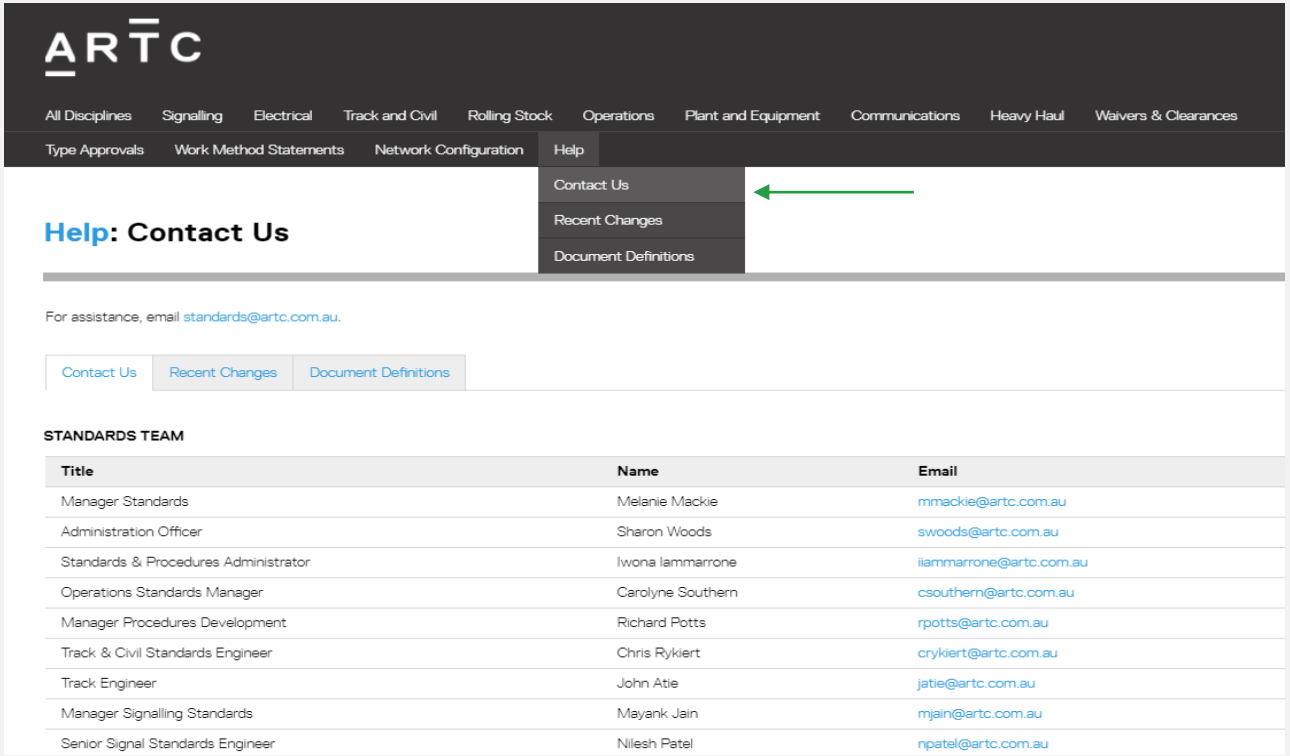


DOCUMENT DEFINITIONS



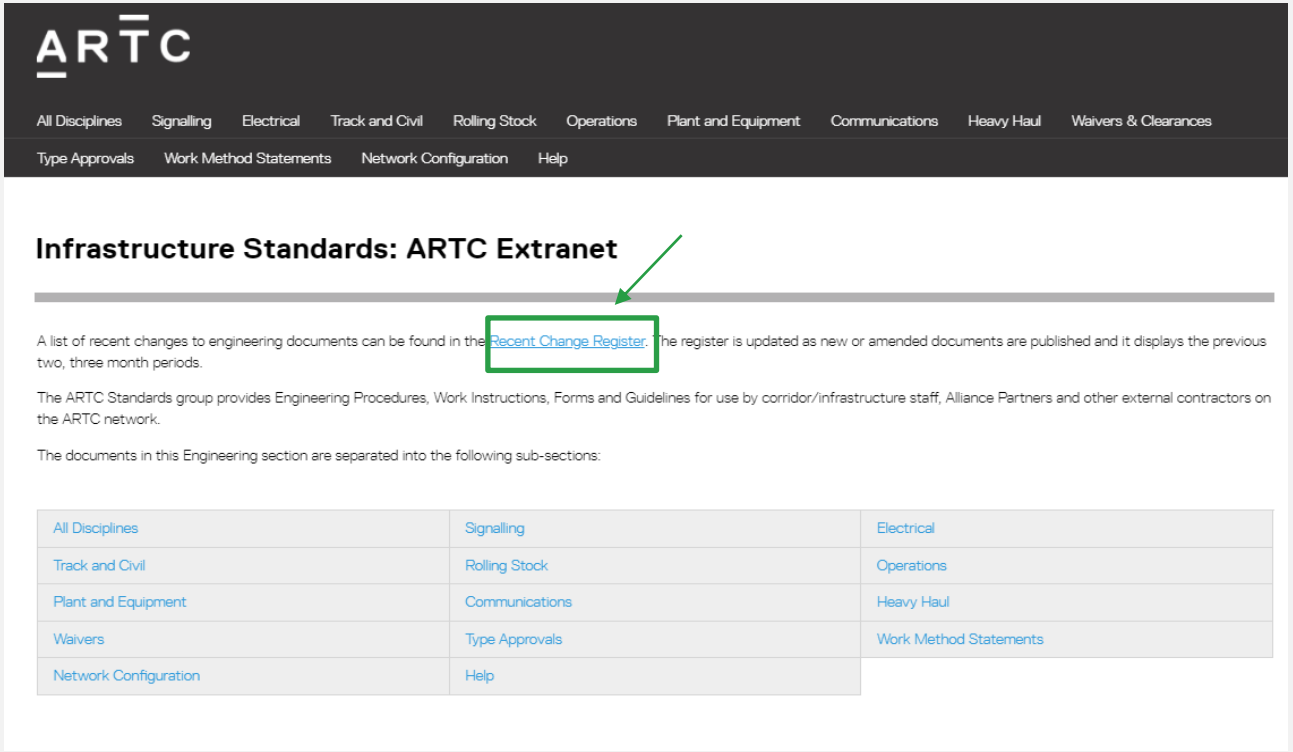
- The ARTC is progressively adopting a uniform approach to definitions, numbering and hierarchy of its documents.
- Select **Help** then **Document Definitions** from the drop down bar.

ACCESSING THE ARTC ENGINEERING EXTRANET



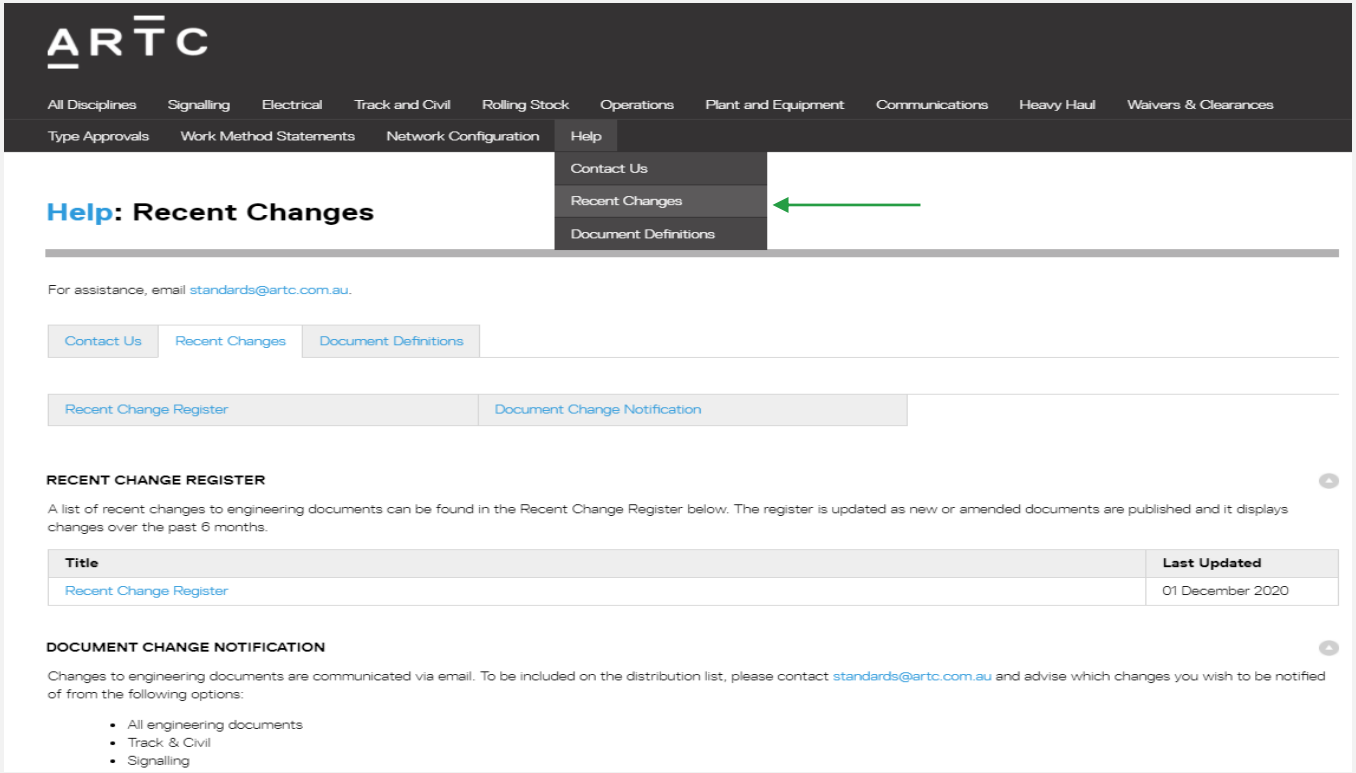
- The ARTC Engineering Extranet address is http://extranet.artc.com.au
- All enquiries about the information that appears on the Engineering Extranet can be emailed to the Standards team at standards@artc.com.au

ACCESSING THE ARTC ENGINEERING EXTRANET



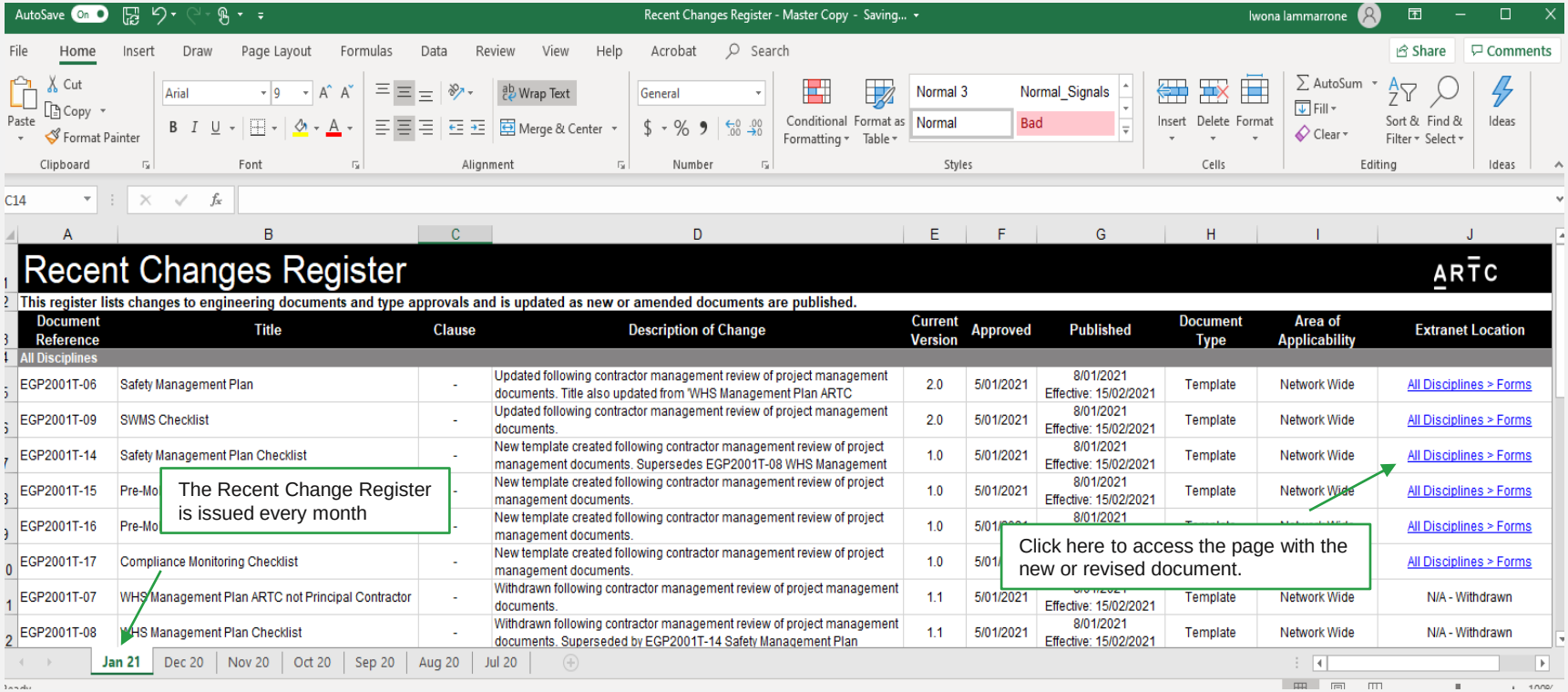
- **Note:** The Recent Change Register is available from the Extranet home page and via the **Help** drop down menu (see following slide).
- It lists recent changes made to standards and other Engineering documents.
- This **must** be checked every three months.
- The changes are recorded in a spreadsheet. Each month has its own worksheet. Previous worksheets are also stored and accessible.

ACCESSING THE RECENT CHANGE REGISTER



Select **Help** then **Recent Changes** drop down menu.

RECENT CHANGE REGISTER



RECENT CHANGE REGISTER

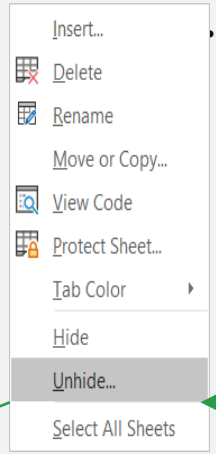
Recent Changes Register

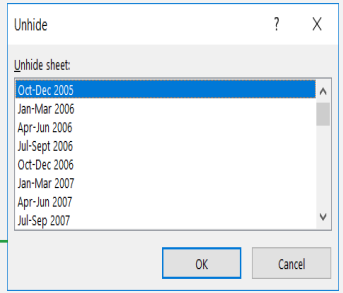
This register lists changes to engineering documents and type approvals and is updated a

Document Reference	Title	Clause	
All Disciplines			
EGP2001T-06	Safety Management Plan	-	Updated follow documents. Ti
EGP2001T-09	SWMS Checklist	-	Updated follow documents.
EGP2001T-14	Safety Management Plan Checklist	-	New template management
EGP2001T-15	Pre-Mobilisation Checklist	-	New template management
EGP2001T-16	Pre-Mobilisation Meeting Template	-	New template management
EGP2001T-17	Compliance Monitoring Checklist	-	New template management
EGP2001T-07	WHS Management Plan ARTC not Principal Contractor	-	Withdrawn foll documents.
EGP2001T-08	WHS Management Plan Checklist	-	Withdrawn foll documents. Su

Right click on a tab and select “unhide”

Jan 21 | Dec 20 | Nov 20 | Oct 20 | Sep 20 | Aug 20 | Jul 20





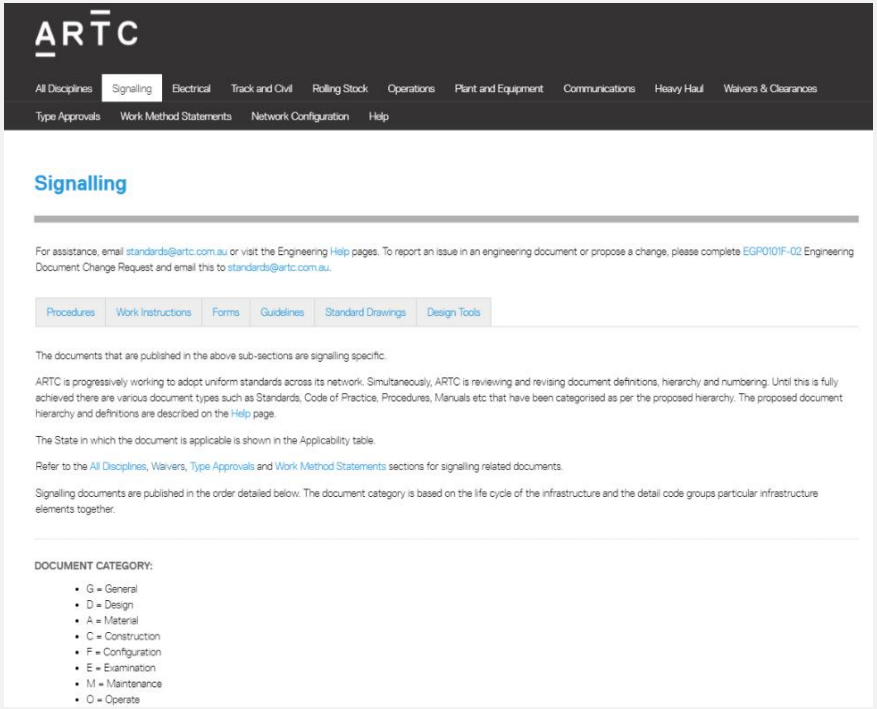
- The Recent Change Register is a Microsoft Excel file. You can save a copy of it to your computer.
- The register displays the previous 6 months.
- The remaining worksheets for previous periods can be viewed by selecting the unhide option.

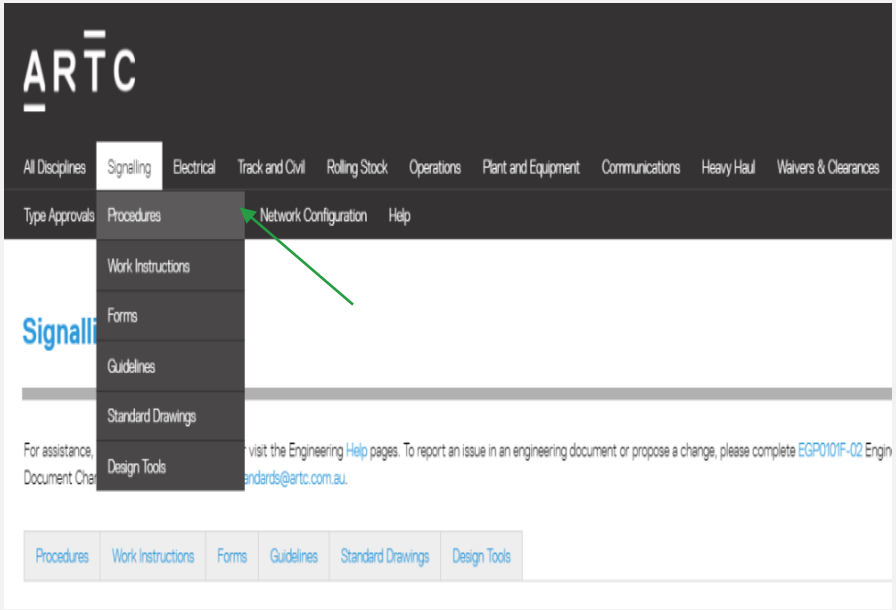
SIGNALLING STANDARDS AND PROCEDURES

- Common signalling standards are standards that apply across the entire ARTC Network. This includes New South Wales, Victoria, Queensland South Australia and Western Australia.
- Common standards should be accessed before state specific standards as these take precedence.
- Common signalling standards cover:
  - general
  - design
  - construction
  - maintenance
  - material
  - configuration and examination
  - training

SIGNALLING STANDARDS AND PROCEDURES

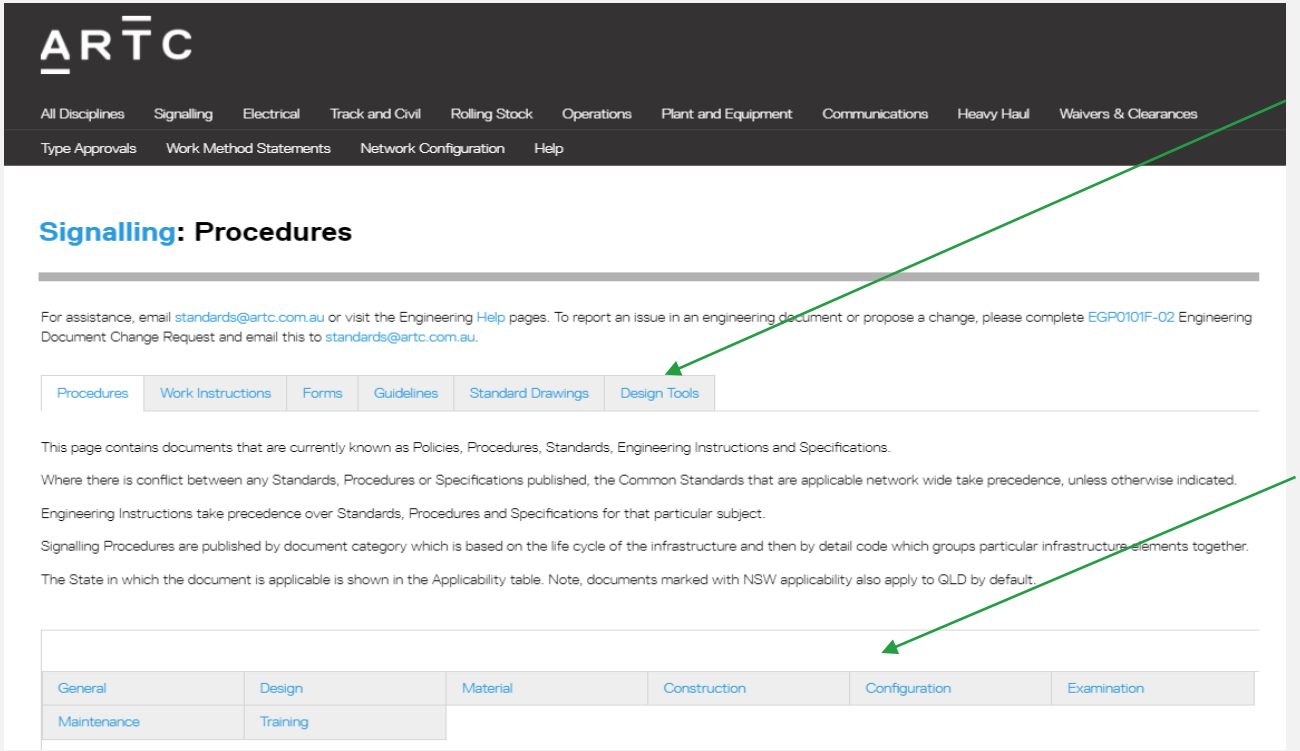
To access the Signalling Standards page, select **Signals** from the **Infrastructure Standards** main menu.





The signalling standards are numbered and organised in accordance with the details on this page.

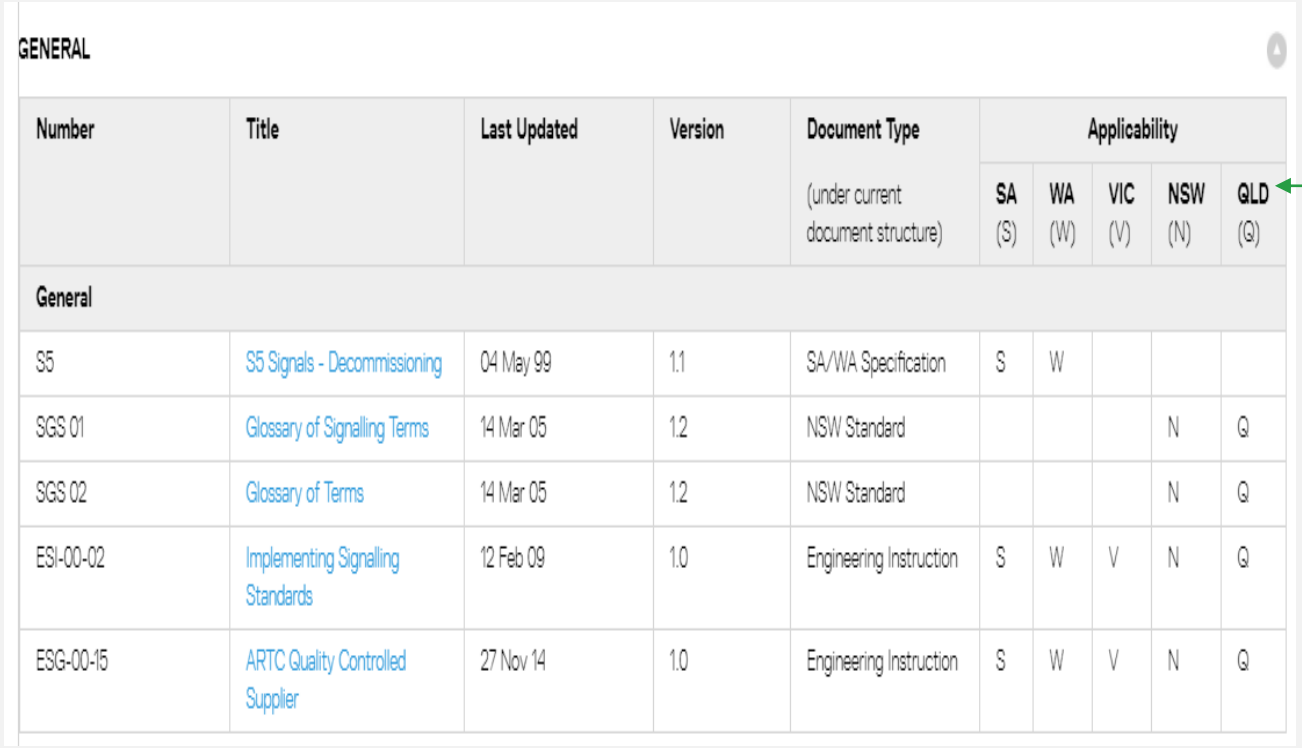
SIGNALLING STANDARDS AND PROCEDURES



This shows the separate sections for Procedures (including Standards), Work Instructions, Forms and Guidelines.

The standards documents are grouped according to these items.

SIGNALLING STANDARDS AND PROCEDURES



GENERAL

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
General									
S5	S5 Signals - Decommissioning	04 May 99	1.1	SA/WA Specification	S	W			
SGS 01	Glossary of Signalling Terms	14 Mar 05	1.2	NSW Standard				N	Q
SGS 02	Glossary of Terms	14 Mar 05	1.2	NSW Standard				N	Q
ESI-00-02	Implementing Signalling Standards	12 Feb 09	1.0	Engineering Instruction	S	W	V	N	Q
ESG-00-15	ARTC Quality Controlled Supplier	27 Nov 14	1.0	Engineering Instruction	S	W	V	N	Q

The documents are listed with the following information:

- Document number
- Title
- Last Updated
- Version
- Document Type
- Jurisdiction (state) applicability

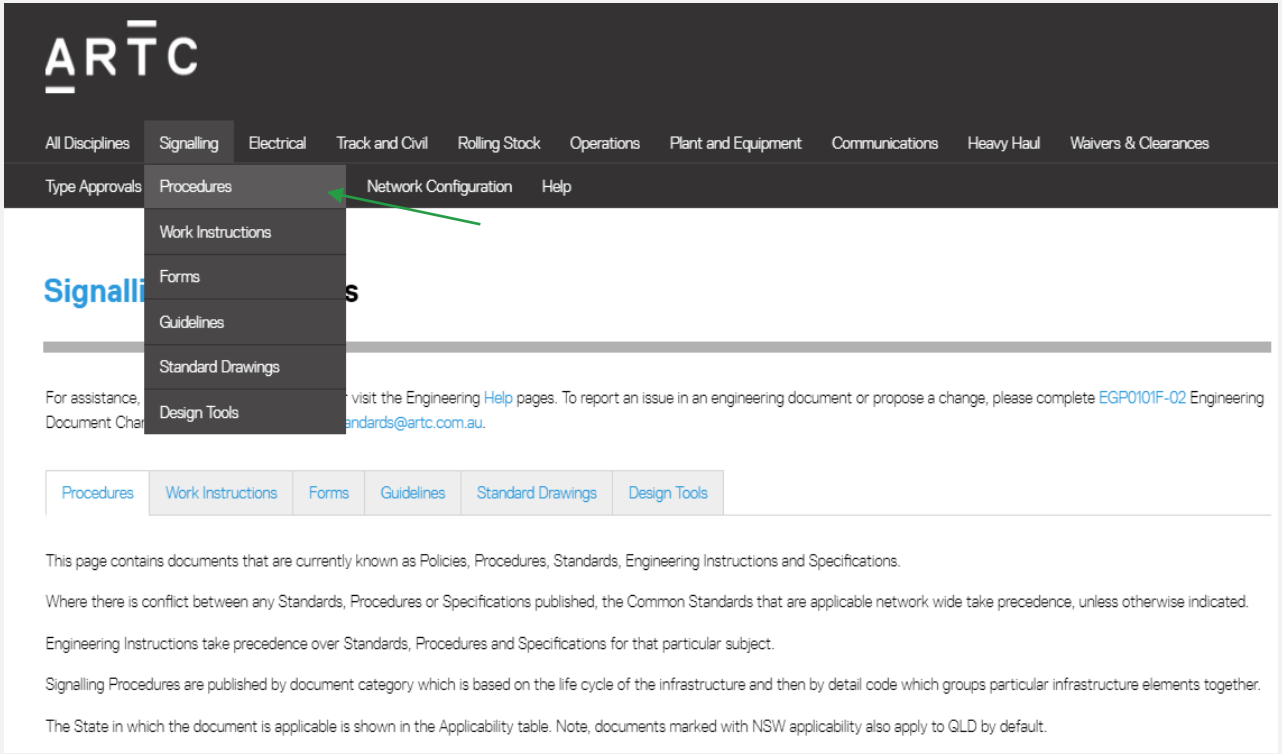
SIGNALLING STANDARDS AND PROCEDURES

DESIGN

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
General									
ESI-05-14	Signal Design and Maintenance of Configuration Information	04 Jul 17	1.0	Engineering Instruction	S	W	V	N	Q
ESI-05-13	Signal Design and Standards Applicability	07 Mar 17	1.0	Engineering Instruction	S	W	V	N	Q
S1	S1 Signals - Design and Rating	13 Aug 10	3.0	SA/WA Specification	S	W			
SDS 00	Introduction	14 Mar 05	1.2	NSW Standard				N	Q
SCP 01	Signalling Control Systems	14 Mar 05	1.2	NSW Standard				N	Q
SDS 05	Speed Restrictions	14 Mar 05	1.2	NSW Standard				N	Q
SDS 06	Notice Boards	14 Mar 05	1.2	NSW Standard				N	Q
SDS 07	Single Line Sections	14 Mar 05	1.2	NSW Standard				N	Q
SDS 08	Bi-Directional Signalling	14 Mar 05	1.2	NSW Standard				N	Q
SDS 15	Train Stops	14 Mar 05	1.2	NSW Standard				N	Q
SDS 20	Warning Lights	14 Mar 05	1.2	NSW Standard				N	Q
SDS 21	Placing Signals at Stop to Protect a Worksite	14 Mar 05	1.2	NSW Standard				N	Q

This indicates that this document is applicable in South Australia, Western Australia, Victoria, New South Wales and Queensland.

COMMON SIGNALLING STANDARDS AND PROCEDURES



- ARTC is in the process of reviewing all signalling standards and updating them to become common signalling standards.
- The standards that have been reviewed to date are available and are shown as applying in all states.
- Where an issue is raised against a standard, this is listed in the Engineering Document Issues Register for future rectification. Standards that apply in specific states are legacy standards from previous management of that region. Common Standards take precedence over them.
- They are planned to be reviewed over time to become Common Standards. They may be used as a reference in other regions.

SIGNALLING STANDARDS AND PROCEDURES

DESIGN

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
General									
ESI-05-14	Signal Design and Maintenance of Configuration Information	04 Jul 17	1.0	Engineering Instruction	S	W	V	N	Q
ESI-05-13	Signal Design and Standards Applicability	07 Mar 17	1.0	Engineering Instruction	S	W	V	N	Q
S1	S1 Signals - Design and Rating	13 Aug 10	3.0	SA/WA Specification	S	W			
SDS 00	Introduction	14 Mar 05	1.2	NSW Standard				N	Q
SCP 01	Signalling Control Systems	14 Mar 05	1.2	NSW Standard				N	Q
SDS 05	Speed Restrictions	14 Mar 05	1.2	NSW Standard				N	Q
SDS 06	Notice Boards	14 Mar 05	1.2	NSW Standard				N	Q
SDS 07	Single Line Sections	14 Mar 05	1.2	NSW Standard				N	Q
SDS 08	Bi-Directional Signalling	14 Mar 05	1.2	NSW Standard				N	Q
SDS 15	Train Stops	14 Mar 05	1.2	NSW Standard				N	Q
SDS 20	Warning Lights	14 Mar 05	1.2	NSW Standard				N	Q
SDS 21	Placing Signals at Stop to Protect a Worksite	14 Mar 05	1.2	NSW Standard				N	Q

- For a particular activity or function multiple standards may be applicable.
- The user must check to find all applicable standards.
- For example the following standards would apply to a design of approach locking circuits in NSW:
  - ESD-05-01 Common Signal Design Principles
  - SDS 00 Signalling Introduction
  - SDS 25 Signalling Circuit Design Standards
  - SCP 01 Signalling Control Systems
  - SCP 23 Design of Microlok II Interlockings

SIGNALLING INFRASTRUCTURE AND OPERATIONS

PRIME RESPONSIBILITY

- The ARTC signals standards and procedures and support documents provide a framework for the design, installation, commissioning maintenance of a signalling system that is safe to operate.

- There will be individual requirements for a signalling installation that are not exactly the same as the cases in the standards documents. Competent staff are required to undertake the activities to apply the requirements to these cases.

- There is an overriding responsibility for those involved to ensure that the system configuration is safe. This in some instances may require additional or different design or installation or equipment requirements. Those responsible also need to undertake the required Risk Assessments to demonstrate the safety is SFAIRP.

SIGNALLING STANDARDS PRECEDENCE

Precedence of Standards Documents

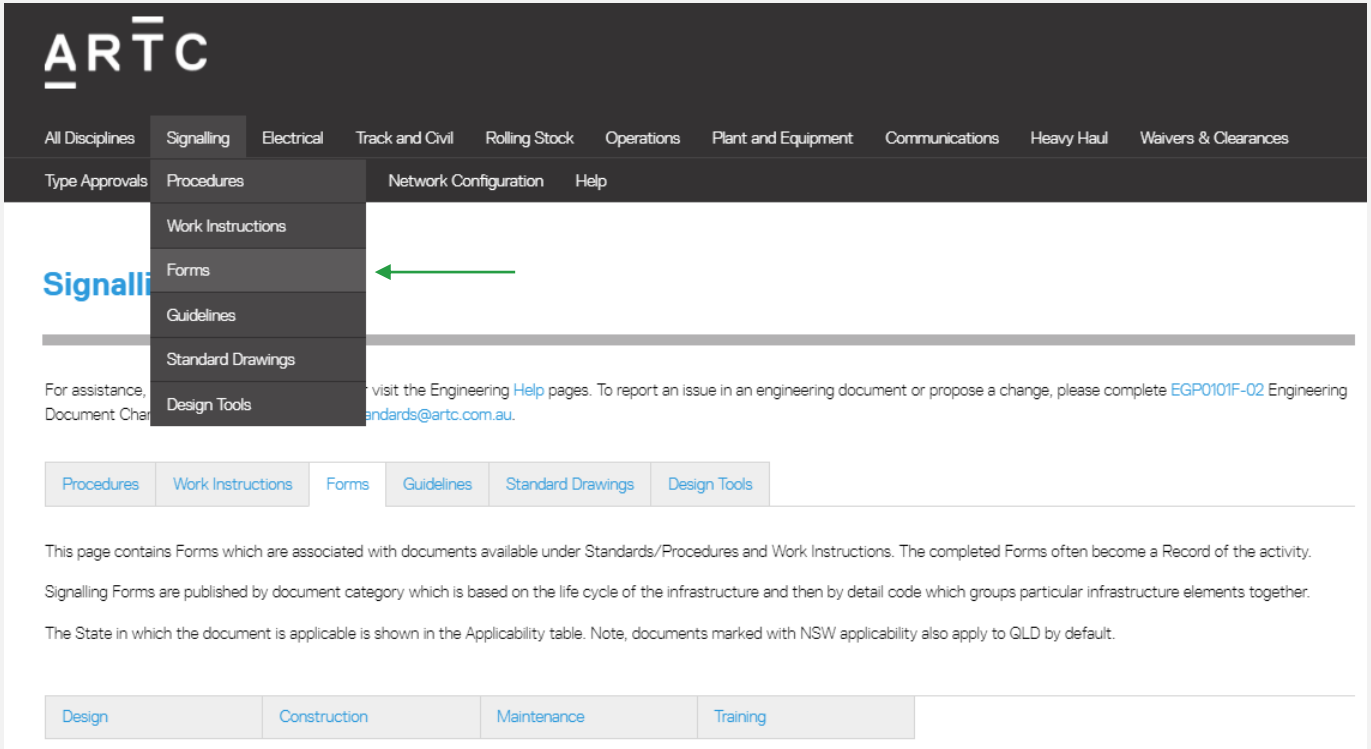
There are various documents that are to be used as the basis for all activities on signalling infrastructure. An update to a standards document may be required due to an issue arising. These updates which are Engineering Signal Instructions (ESI) take precedence over standards and procedures.

Order of Precedence – where items are in conflict

- Engineering Waivers
- ESI Engineering Signal Instruction
- Signals Standards and Procedures – Common applicable to all regions
- Signals Standards and Procedures – region specific
- Work Instructions and Service Schedules
- Guidelines, Technical Notes, Type Approvals

Where the items are not in conflict then the requirements add together.

SIGNALLING STANDARDS - FORMS



- ARTC has also developed standard forms for use with the Signalling standards and procedures.
- To access these forms, select **Signals**, then **Forms** from the main menu.
- It is best to save the form to your own computer folder. Then open it and use it for individual tasks. (Note: Any saved form will become uncontrolled)

SIGNALLING STANDARDS - FORMS

DESIGN

Number	Title	Last Updated	Version	Document Type (under current document structure)	Relevant Procedure or Work Instruction	Applicability				
						SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
General										
ESI0514F-01	Source Design Records Assurance and Correlation	04 Jul 17	1.0	Form	ESI-05-14	S	W	V	N	Q
ESI0514F-02	Commissioning Readiness Review	04 Jul 17	1.0	Form	ESI-05-14	S	W	V	N	Q
Interlockings, CBI Field Equipment										
ESD0503F-01	Signalling Braking Distance Calculations – Summary Record	29 Jun 17	1.0	Form	ESD-05-03	S	W	V	N	Q
ESD0511F-01	Request for Microlok II Addresses	12 Feb 14	1.2	Common Standard	ESD-05-11	S	W	V	N	Q
ESD0511F-02	Installed Microlok Data Form	13 Aug 10	1.1	Common Standard	ESD-05-11	S	W	V	N	Q
Level Crossings										
ESI0311F-01	Request for ElectrologIXS XP4 Level Crossing ID	17 Jan 19	1.0	Form	ESI-03-11	S	W	V	N	Q

Forms cover the following areas:

- Design
- Construction
- Maintenance
- Training

These Forms should be used for the tasks covered by the respective procedures.

REGIONAL SIGNALLING STANDARDS

- NSW signalling standards apply to works undertaken in NSW and in QLD from Border Loop to Acacia Ridge.
- To access NSW signalling standards, select: Signals > Procedures.
- Then choose the standards, procedures or support documents that are applicable to NSW.
- Similar processes apply for standards applicable to other states or regions.

REGIONAL SIGNALLING STANDARDS

Signalling: Procedures

For assistance, email standards@artc.com.au or visit the Engineering Help pages. To report an issue in an engineering document or propose a change, please complete EGP0101F-02 Engineering Document Change Request and email this to standards@artc.com.au.

Procedures | Work Instructions | Forms | Guidelines | Standard Drawings | Design Tools

This page contains documents that are currently known as Policies, Procedures, Standards, Engineering Instructions and Specifications.

Where there is conflict between any Standards, Procedures or Specifications published, the Common Standards that are applicable network wide take precedence, unless otherwise indicated.

Engineering Instructions take precedence over Standards, Procedures and Specifications for that particular subject.

Signalling Procedures are published by document category which is based on the life cycle of the infrastructure and then by detail code which groups particular infrastructure elements together.

The State in which the document is applicable is shown in the Applicability table. Note, documents marked with NSW applicability also apply to QLD by default.

General | Design | Material | Construction | Configuration | Examination | Maintenance | Training

GENERAL

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
General									
S5	S5 Signals - Decommissioning	04 May 99	1.1	SA/WA Specification	S	W			
SGS 01	Glossary of Signalling Terms	14 Mar 05	1.2	NSW Standard				N	Q
SGS 02	Glossary of Terms	14 Mar 05	1.2	NSW Standard				N	Q

SIGNALS COMMISSIONING

The commissioning of new or altered signalling infrastructure is a critical activity. Many steps are undertaken to ensure the safety of the operating system.

All activities, testing and certifications are documented in a Commissioning Work Package. This covers all changes to the signalling. The work must be in accordance with the Network Alteration Notice (NAN) and a notice is issued to train operators, drivers and network controllers detailing the new signalling and track arrangements.

Signals staff undertaking these activities must be duly competent and have the appropriate Statement of Competency (commonly known as SOC).

All documentation is recorded and can be accessed through the Drawing Management System (Aconex, except for Victorian drawings which are held by the Victorian Department of Transport).

SIGNALS COMMISSIONING

The following documents are required for a Signals Commissioning.

1. Completed ‘Installation Work Package’ and records.
2. Completed ‘Inspection and Test Plan’ and records.
3. **Master Test Copy of all design drawings . This is to be marked up showing that all installed equipment has been tested.**
4. **Complete ‘Commissioning Work Package’. This is not to have blank template pages.**
5. Network Alteration Notice for the proposed works.
6. Notice covering the works and date such as ‘Safe Notice’.
7. Record of Pre-Commissioning Meeting and Commissioning Readiness Review.
8. All testing and Commissioning to be performed as per the ARTC signalling standards provided on ARTC extranet.
9. In addition to signalling standard provided, there are other standards requires to be followed which applies to all discipline like configuration management, project management and risk management.
10. It is advisable for all staff working on ARTC testing and commissioning to familiarise themselves with ARTC requirements.

SIGNALS COMMISSIONING

Signalling: Procedures

ESC-21-01	Inspection and Testing of Signalling - Roles, Responsibilities and Authorities	21 May 20	1.3
ESC-21-02	Inspection and Testing of Signalling - Plans, Programs, Documentation and Packages	13 Aug 10	1.2
ESC-21-03	Inspection and Testing of Signalling - Inspection and Testing Principles	13 Aug 10	1.2
ESC-21-04	Inspection and Testing of Signalling - Standard Forms	13 Aug 10	1.2

Signalling: Forms

ESC2104F-01	Inspection and Testing Plan	13 Aug 10	1.1
ESC2104F-02	Minor Signalling Work Package	13 Aug 10	1.1
ESC2104F-03	Installation Work Package	13 Aug 10	1.1
ESC2104F-04	Commissioning Work Package	13 Aug 10	1.1
ESC2104F-05	Handover Documentation Work Package	13 Aug 10	1.1

The above common standards and forms apply to all signalling infrastructure commissioning. This includes signalling control systems.

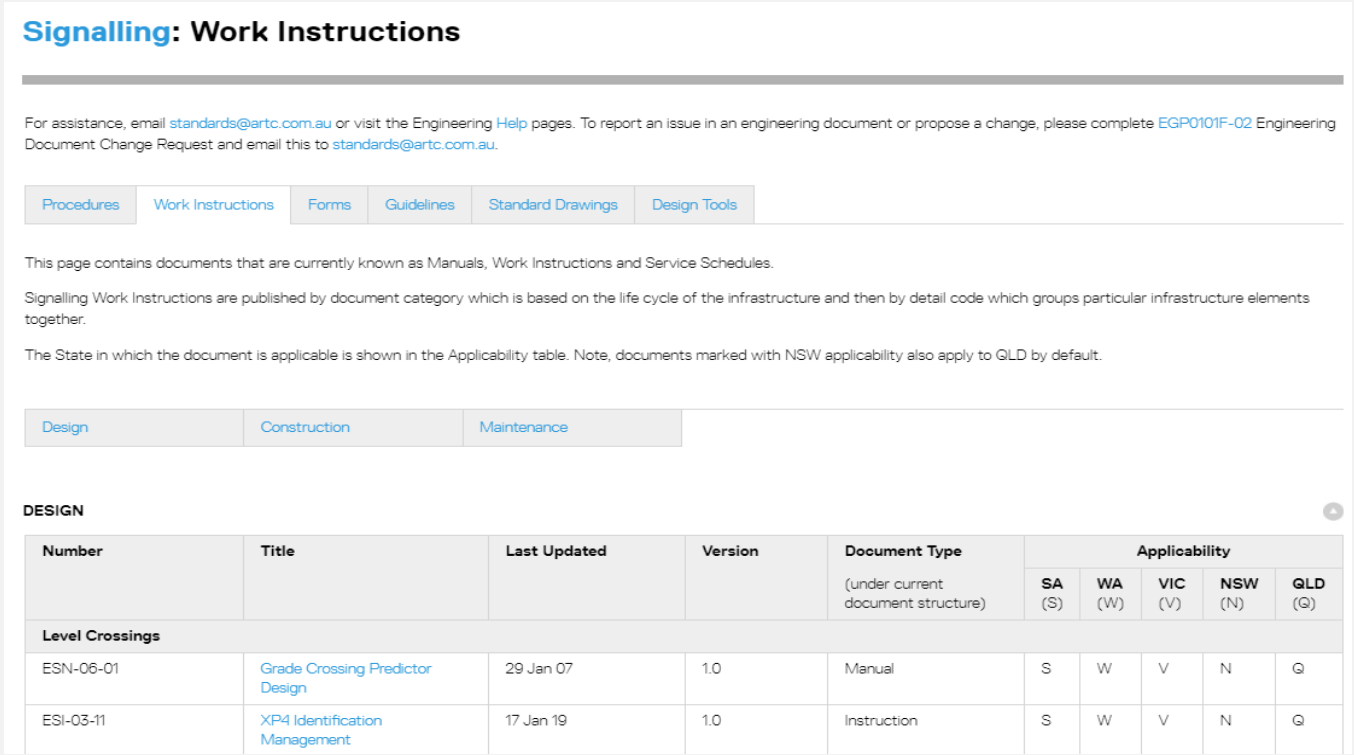
SIGNALS MAINTENANCE

Signalling maintainers keep records of the maintenance activities and the state of operation of the signalling equipment.

Track circuit history cards are used to record the test values of track circuits. The initial entry is at the time of commissioning. Then as they are regularly tested as part of scheduled maintenance activities, the test results are recorded.

These records are of considerable assistance when fault finding or in investigations of incidents.

SIGNALS MAINTENANCE



Signalling: Work Instructions

For assistance, email standards@artc.com.au or visit the Engineering Help pages. To report an issue in an engineering document or propose a change, please complete EGP0101F-02 Engineering Document Change Request and email this to standards@artc.com.au.

Procedures | Work Instructions | Forms | Guidelines | Standard Drawings | Design Tools

This page contains documents that are currently known as Manuals, Work Instructions and Service Schedules.

Signalling Work Instructions are published by document category which is based on the life cycle of the infrastructure and then by detail code which groups particular infrastructure elements together.

The State in which the document is applicable is shown in the Applicability table. Note, documents marked with NSW applicability also apply to QLD by default.

Design | Construction | Maintenance

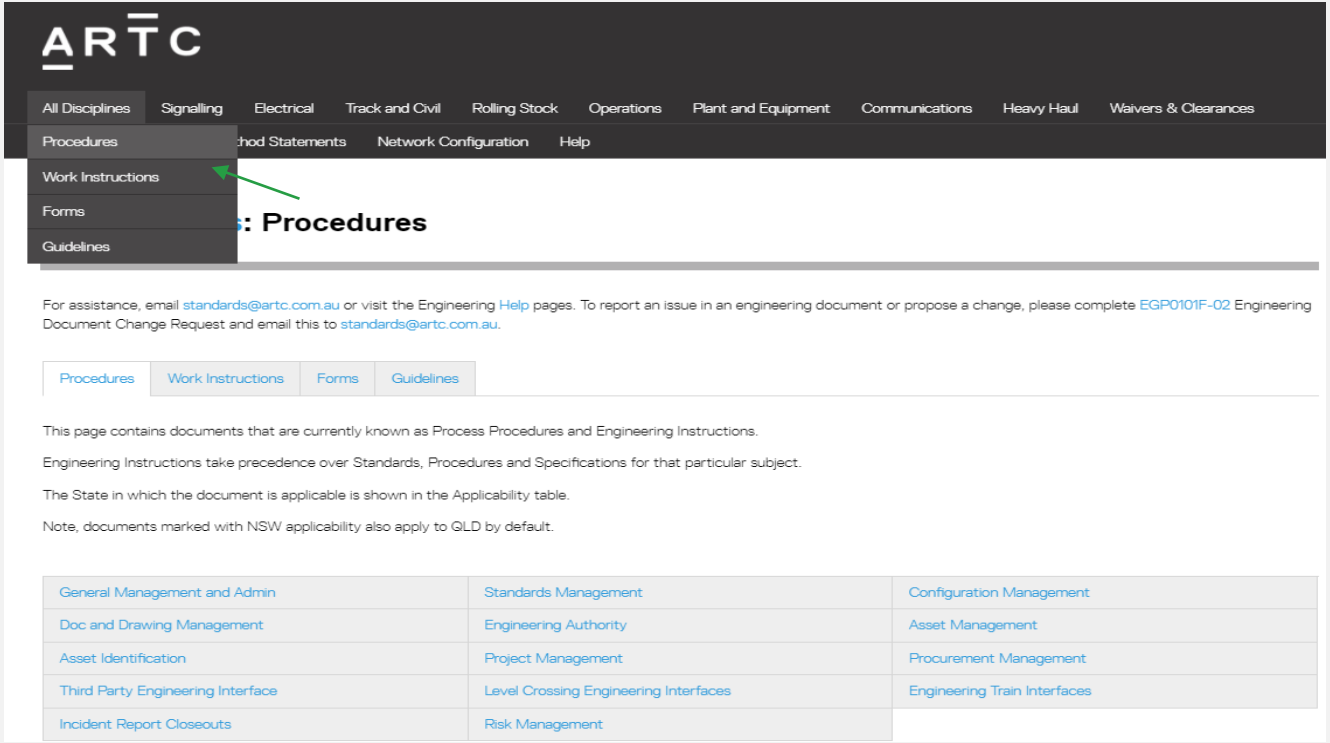
DESIGN

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
Level Crossings									
ESN-06-01	Grade Crossing Predictor Design	29 Jan 07	1.0	Manual	S	W	V	N	Q
ESI-03-11	XP4 Identification Management	17 Jan 19	1.0	Instruction	S	W	V	N	Q

Various forms and documentation or Work Instructions are provided to assist in the maintenance of signalling infrastructure.

The Work Instruction ESW-26-01 Signals Service Schedules / Standard Jobs is also referenced here for scheduled maintenance activities.

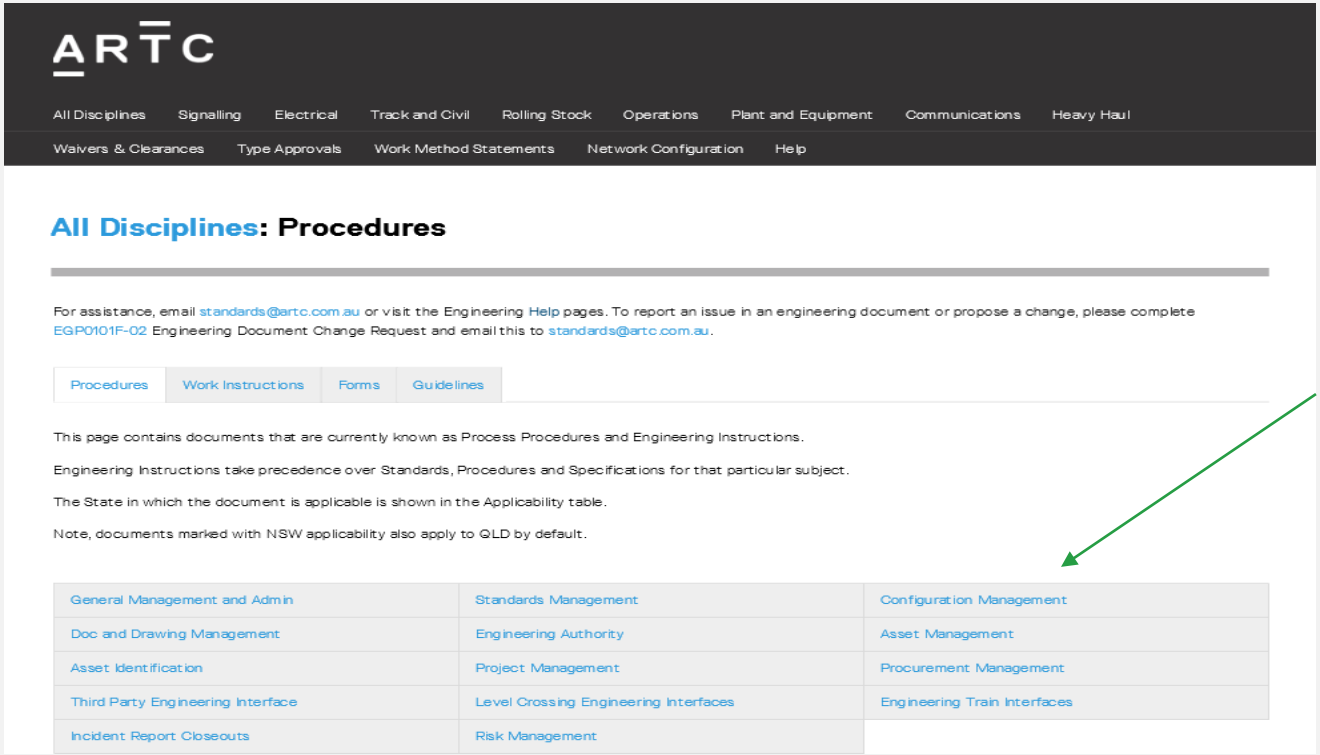
ENGINEERING POLICIES AND PROCEDURES



Engineering process procedures outline the methods used by ARTC Engineering staff to undertake all engineering work activities.

To access ARTC's Engineering process procedures, select **All** and then **Procedures** from the main menu.

POLICIES AND PROCEDURES

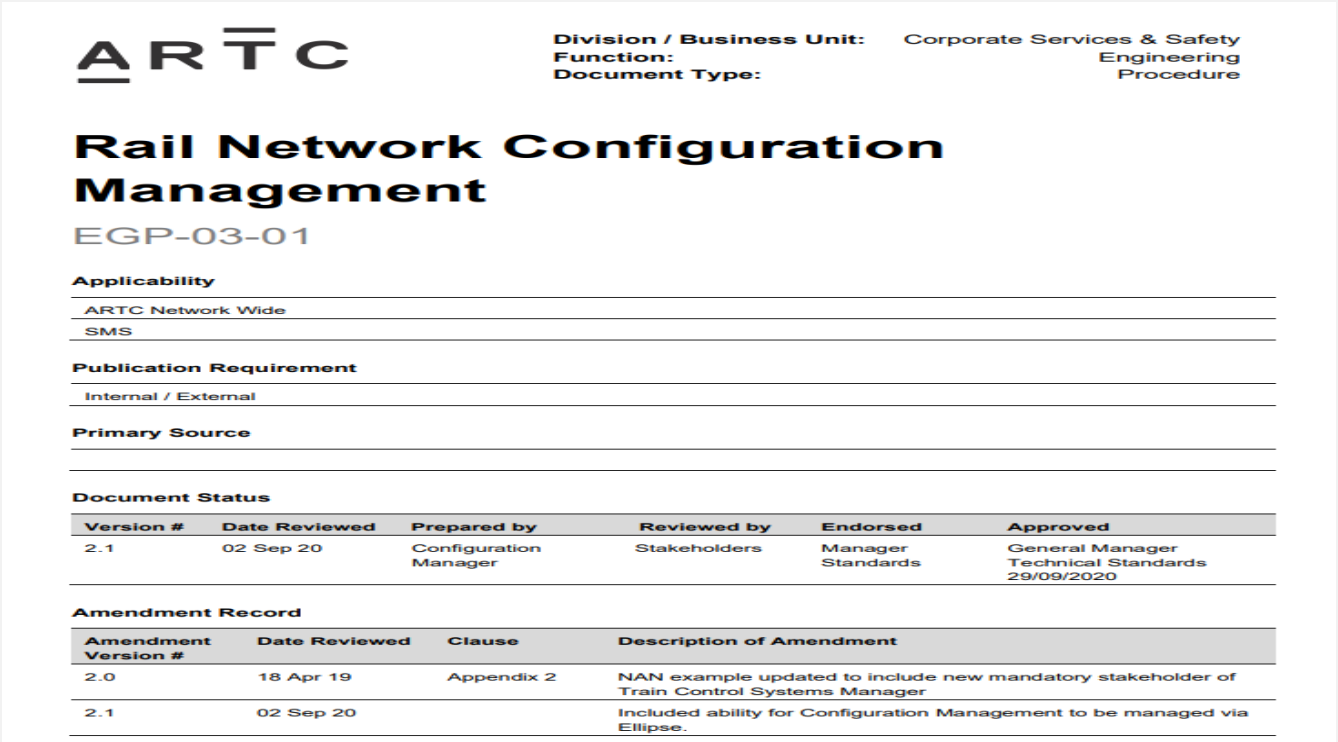


There are a series of Engineering process procedures available under a new numbering scheme.

These are grouped into categories.

Clicking on the relevant heading will navigate you to the documents you require.

POLICIES AND PROCEDURES



ARTC

Division / Business Unit: Corporate Services & Safety
Function: Engineering
Document Type: Procedure

Rail Network Configuration Management

EGP-03-01

Applicability

ARTC Network Wide

SMS

Publication Requirement

Internal / External

Primary Source

Document Status

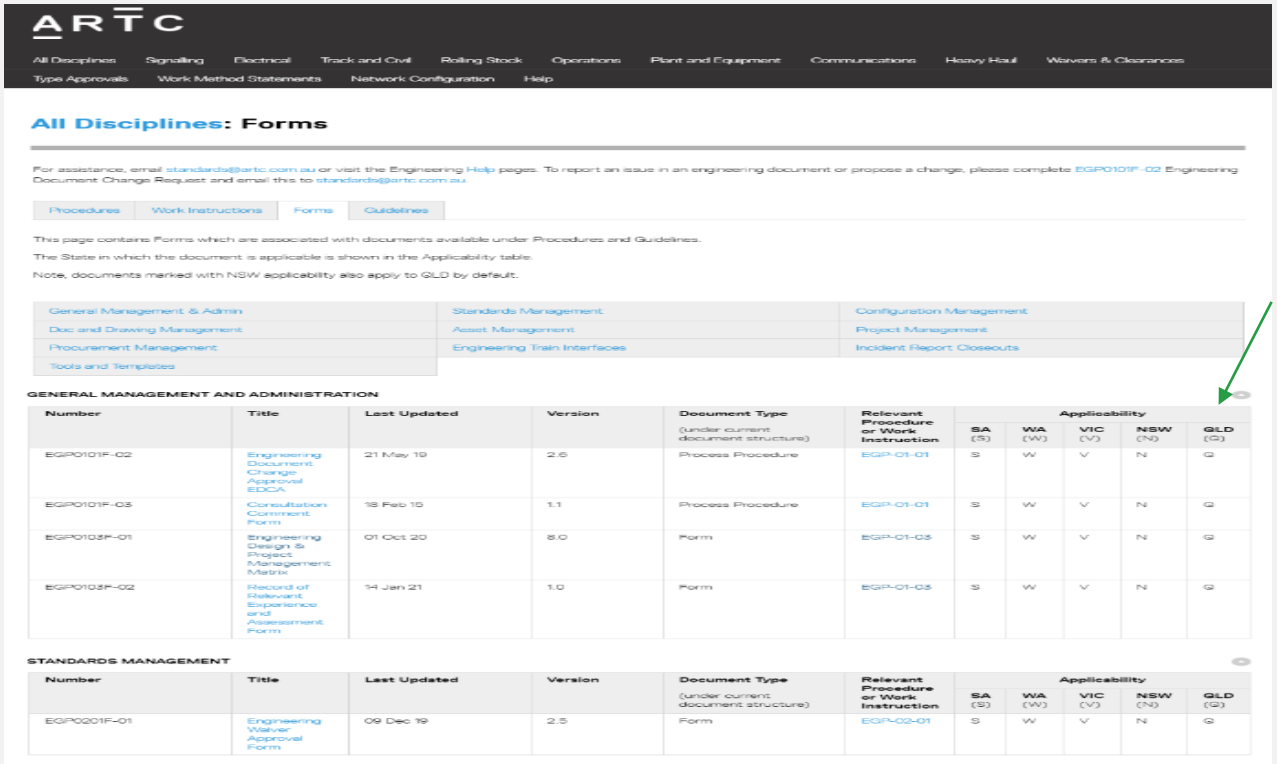
Version #	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
2.1	02 Sep 20	Configuration Manager	Stakeholders	Manager Standards	General Manager Technical Standards 29/09/2020

Amendment Record

Amendment Version #	Date Reviewed	Clause	Description of Amendment
2.0	18 Apr 19	Appendix 2	NAN example updated to include new mandatory stakeholder of Train Control Systems Manager
2.1	02 Sep 20		Included ability for Configuration Management to be managed via Ellipse.

EGP-03-01 Rail Network Configuration Management provides tools for the management and implementation of Configuration Management and provides guidance on configuration change and Network Alteration Notices including documentation and approvals.

POLICIES AND PROCEDURES - FORMS



ARTC

All Disciplines | Signalling | Electrical | Track and Civil | Rolling Stock | Operations | Plant and Equipment | Communications | Heavy Haul | Waivers & Clearances

Type Approvals | Work Method Statements | Network Configuration | Help

All Disciplines: Forms

For assistance, email standards@artc.com.au or visit the Engineering Help pages. To report an issue in an engineering document or propose a change, please complete EGP0101F-02 Engineering Document Change Request and email this to standards@artc.com.au

Procedures | Work Instructions | Forms | Guidelines

This page contains Forms which are associated with documents available under Procedures and Guidelines.
The State in which the document is applicable is shown in the Applicability table.
Note, documents marked with NSW applicability also apply to QLD by default.

General Management & Admin | Standards Management | Configuration Management
Doc and Drawing Management | Asset Management | Project Management
Procurement Management | Engineering Train Interfaces | Incident Report Closeouts
Tools and Templates

GENERAL MANAGEMENT AND ADMINISTRATION

Number	Title	Last Updated	Version	Document Type (under current document structure)	Relevant Procedure or Work Instruction	Applicability SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
EGP0101F-02	Engineering Document Change Approval EDCA	21 May 19	2.6	Process Procedure	EGP-01-01	S	W	V	N	Q
EGP0101F-03	Consultation Comment Form	18 Feb 15	1.1	Process Procedure	EGP-01-01	S	W	V	N	Q
EGP0103F-01	Engineering Design & Project Management Matrix	01 Oct 20	8.0	Form	EGP-01-03	S	W	V	N	Q
EGP0103F-02	Record of Relevant Experience and Assessment Form	14 Jan 21	1.0	Form	EGP-01-03	S	W	V	N	Q

STANDARDS MANAGEMENT

Number	Title	Last Updated	Version	Document Type (under current document structure)	Relevant Procedure or Work Instruction	Applicability SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
EGP0201F-01	Engineering Waiver Approval Form	09 Dec 19	2.5	Form	EGP-02-01	S	W	V	N	Q

EGP0301F-01 Network Alteration Notice is a form used in conjunction with EGP-03-01 Rail Network Configuration Management. It is used to coordinate the notification and authorisation of a change to infrastructure or train operations. It covers the operational capability, infrastructure configuration, documentation or safe working requirements of the ARTC Network and the maintenance of ARTC operational systems.

A Network Alteration Notice (also known as a NAN) is required for all changes, including minor changes.

A number of minor changes to the network infrastructure may be on one NAN.

For example upgrade of incandescent signals to LED signals across a section of corridor could be undertaken within a financial year so that the NAN can be cleared out.

POLICIES AND PROCEDURES

GENERAL MANAGEMENT AND ADMINISTRATION

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
EGP-01-02	Engineering Document Numbering Scheme	28 Apr 16	1.1	Process Procedure	S	W	V	N	Q
EGP-01-01	Engineering Document Control	21 May 19	2.5	Process Procedure	S	W	V	N	Q
EGP-01-03	Engineering, Design and Project Management Identification of Competence Procedure	15 Dec 20	1.0	Procedure	S	W	V	N	Q

STANDARDS MANAGEMENT

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
EGP-02-01	Engineering Waiver Management	29 Oct 20	2.3	Process Procedure	S	W	V	N	Q

CONFIGURATION MANAGEMENT

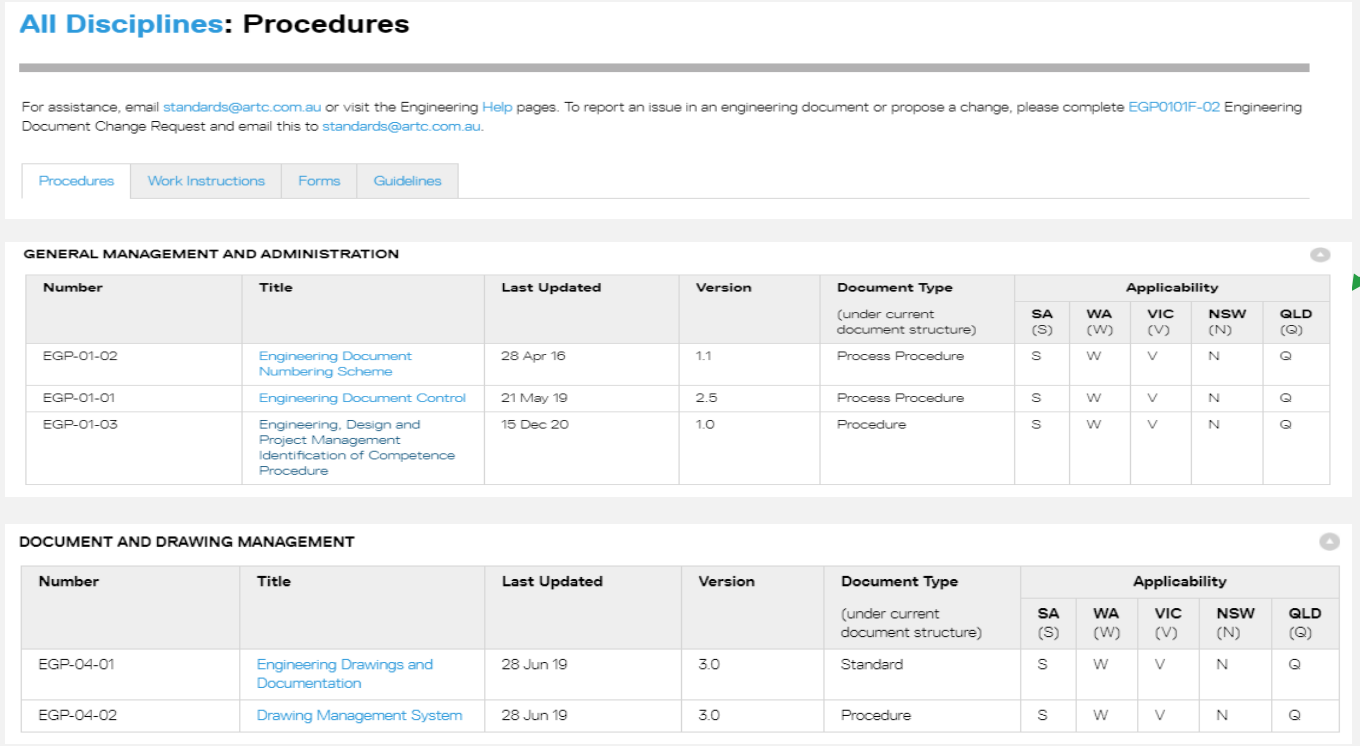
Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
EGP-03-01	Rail Network Configuration Management	02 Sep 20	2.1	Procedure	S	W	V	N	Q
EGP-03-02	Equipment Register - Updating and Maintenance	16 Jul 20	1.7	Procedure	S	W	V	N	Q

The old numbering scheme (PP-100 series), the Engineering process procedures were grouped into the following categories:

- PP-100-109 General Management and Administration
- PP-110-114 Strategic Planning
- PP-115-139 Engineering Services
- PP-140-169 Asset Management
- PP-170-199 Contracts and Supply

The above procedures numbering schemes are slowly moving to the new numbering scheme as procedures are updated.

POLICIES AND PROCEDURES



All Disciplines: Procedures

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Procedures | Work Instructions | Forms | Guidelines

GENERAL MANAGEMENT AND ADMINISTRATION

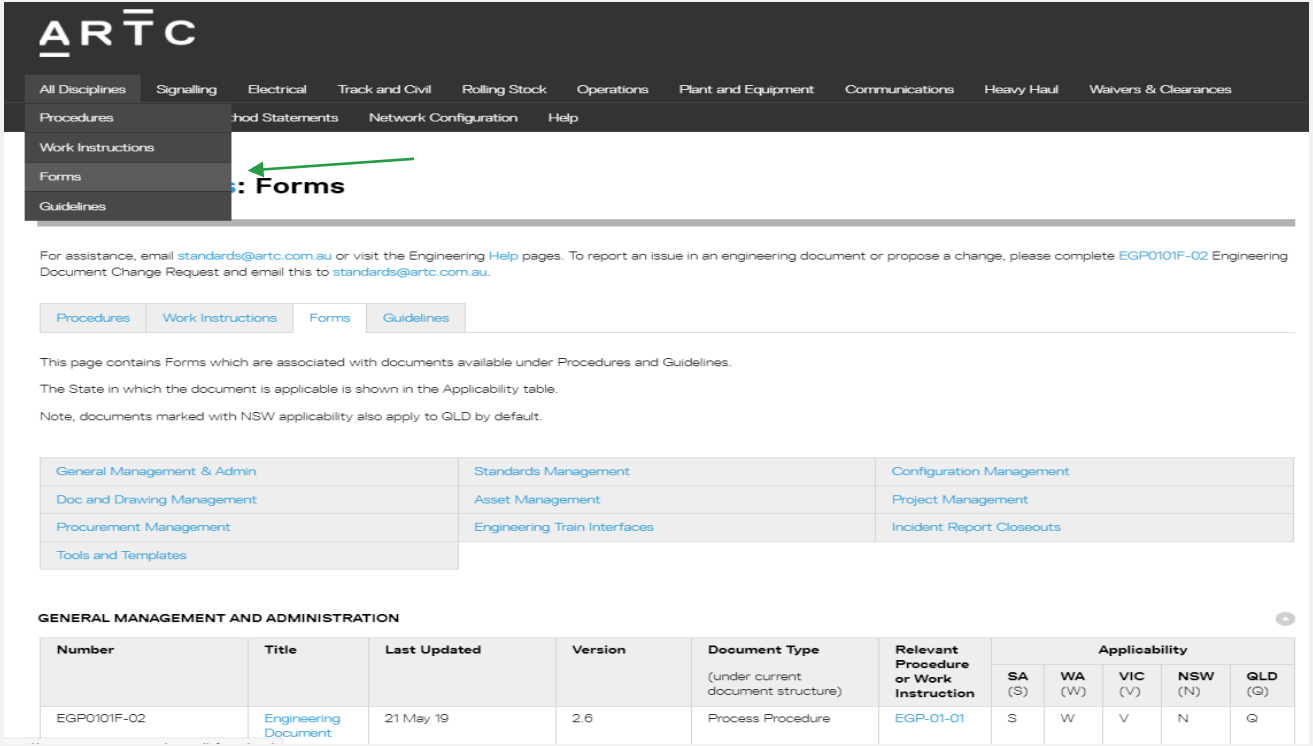
Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
EGP-01-02	Engineering Document Numbering Scheme	28 Apr 16	1.1	Process Procedure	S	W	V	N	Q
EGP-01-01	Engineering Document Control	21 May 19	2.5	Process Procedure	S	W	V	N	Q
EGP-01-03	Engineering, Design and Project Management Identification of Competence Procedure	15 Dec 20	1.0	Procedure	S	W	V	N	Q

DOCUMENT AND DRAWING MANAGEMENT

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
EGP-04-01	Engineering Drawings and Documentation	28 Jun 19	3.0	Standard	S	W	V	N	Q
EGP-04-02	Drawing Management System	28 Jun 19	3.0	Procedure	S	W	V	N	Q

These procedures are essential for managing and controlling signalling documents and drawings.

POLICIES AND PROCEDURES - FORMS



To access the forms that support ARTC's policies and procedures, select **All**, then **Forms** from the main menu.

ENGINEERING INSTRUCTIONS / NOTES / MANUALS

- **Engineering Notes and Manuals** are supplementary information to standards. They provide guidance for the application of the standards in particular circumstances. They should be followed in the respective design, maintenance and construction activities.

- **Engineering Instructions** may be one off inspections or standing instructions until practices and procedures are updated. Engineering Instructions take precedence over other standards that relate to the same subject matter. They may cover maintenance, construction, design and signalling equipment.

- **Engineering Bulletins** may be issued to alert staff to particular technical issues. They may highlight specific standards, practices and procedures or maintenance plans that require special attention. They could also include extracts from the findings of Railway Incident Inquiries.

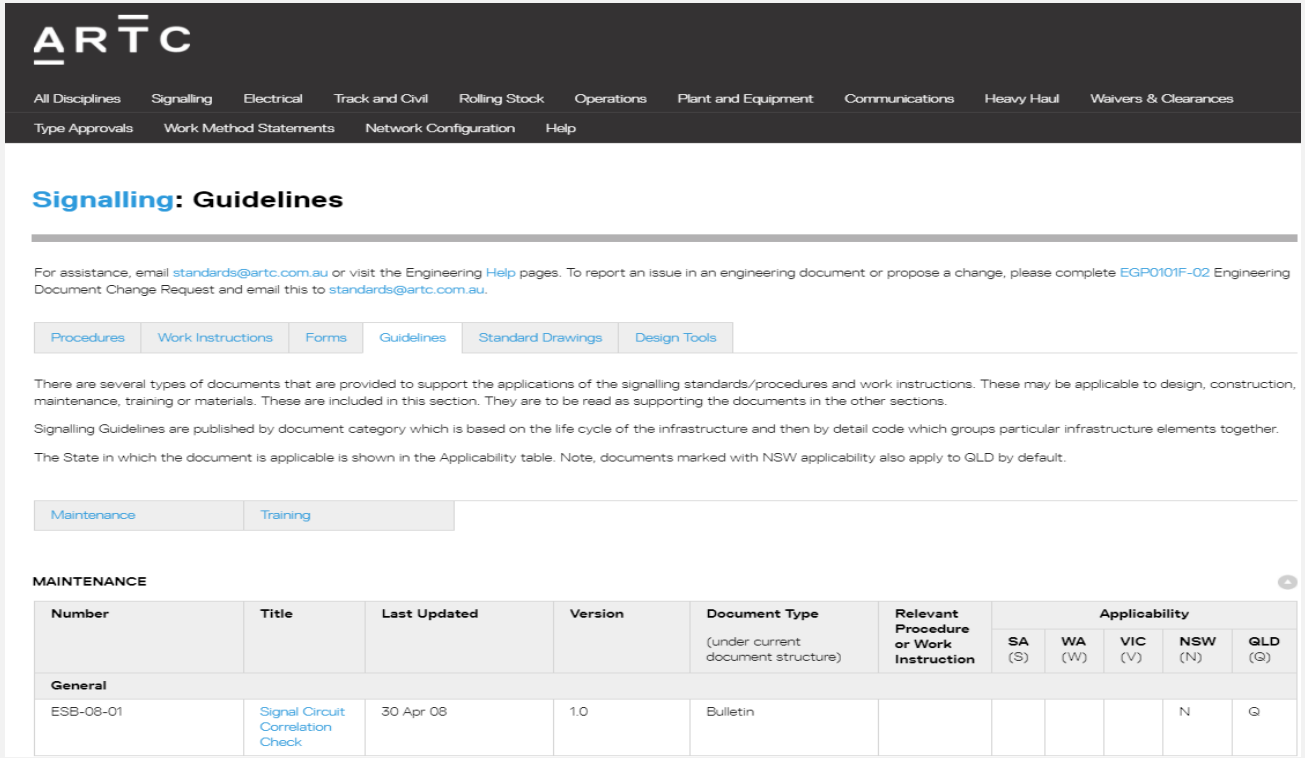
ENGINEERING INSTRUCTIONS / NOTES / MANUALS

GENERAL

Number	Title	Last Updated	Version	Document Type (under current document structure)	Applicability				
					SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
General									
S5	S5 Signals - Decommissioning	04 May 99	1.1	SA/WA Specification	S	W			
SGS 01	Glossary of Signalling Terms	14 Mar 05	1.2	NSW Standard				N	Q
SGS 02	Glossary of Terms	14 Mar 05	1.2	NSW Standard				N	Q
ESI-00-02	Implementing Signalling Standards	12 Feb 09	1.0	Engineering Instruction	S	W	V	N	Q
ESG-00-15	ARTC Quality Controlled Supplier	27 Nov 14	1.0	Engineering Instruction	S	W	V	N	Q

The Signal Engineering Instructions are listed with the Signals Standards and Procedures. They are grouped with the respective standards and procedures that they apply to.

ENGINEERING INSTRUCTIONS / NOTES / MANUALS



ARTC

All Disciplines | Signalling | Electrical | Track and Civil | Rolling Stock | Operations | Plant and Equipment | Communications | Heavy Haul | Waivers & Clearances

Type Approvals | Work Method Statements | Network Configuration | Help

Signalling: Guidelines

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Procedures | Work Instructions | Forms | Guidelines | Standard Drawings | Design Tools

There are several types of documents that are provided to support the applications of the signalling standards/procedures and work instructions. These may be applicable to design, construction, maintenance, training or materials. These are included in this section. They are to be read as supporting the documents in the other sections.

Signalling Guidelines are published by document category which is based on the life cycle of the infrastructure and then by detail code which groups particular infrastructure elements together.

The State in which the document is applicable is shown in the Applicability table. Note, documents marked with NSW applicability also apply to QLD by default.

Maintenance | Training

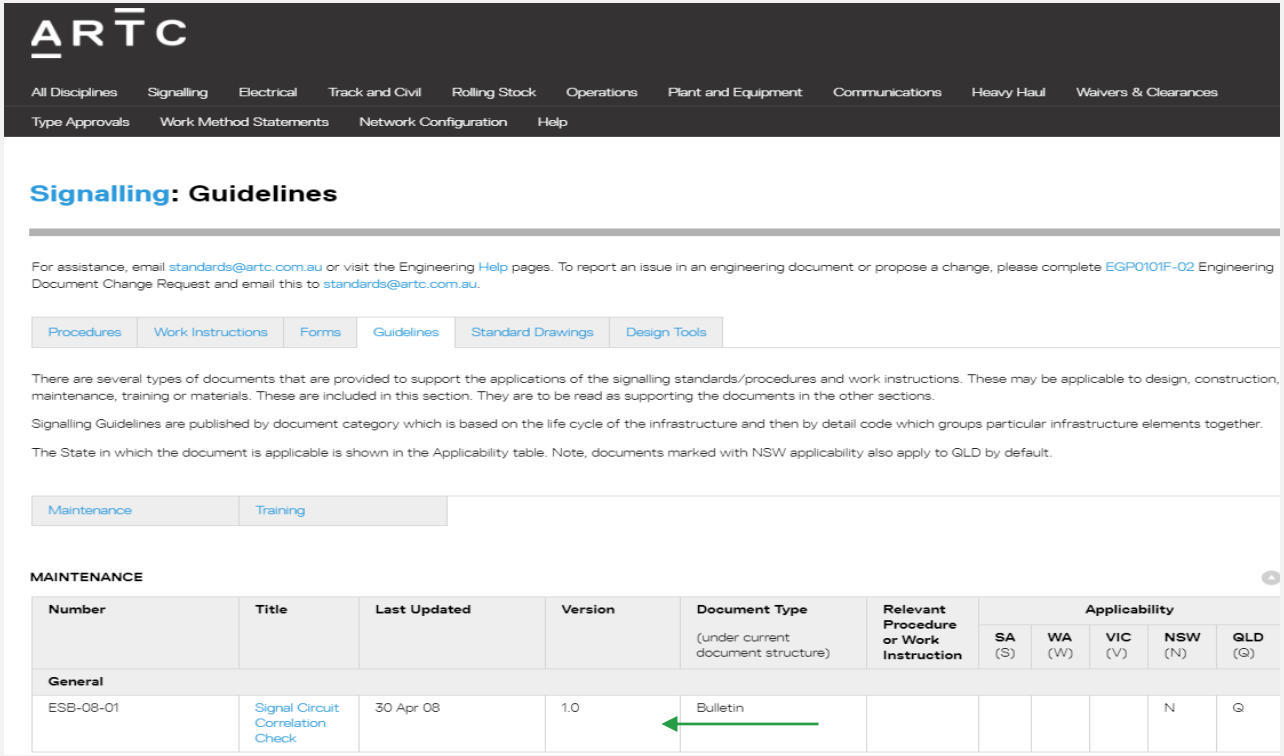
MAINTENANCE

Number	Title	Last Updated	Version	Document Type (under current document structure)	Relevant Procedure or Work Instruction	Applicability				
						SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
General										
ESB-08-01	Signal Circuit Correlation Check	30 Apr 08	1.0	Bulletin					N	Q

- Engineering Notes/Manuals
- Engineering Bulletins

These are listed under Guidelines. They are grouped in the same way as the standards and procedures.

ENGINEERING INSTRUCTIONS / NOTES / MANUALS



ARTC

All Disciplines | Signalling | Electrical | Track and Civil | Rolling Stock | Operations | Plant and Equipment | Communications | Heavy Haul | Waivers & Clearances

Type Approvals | Work Method Statements | Network Configuration | Help

Signalling: Guidelines

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Procedures | Work Instructions | Forms | Guidelines | Standard Drawings | Design Tools

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Maintenance | Training

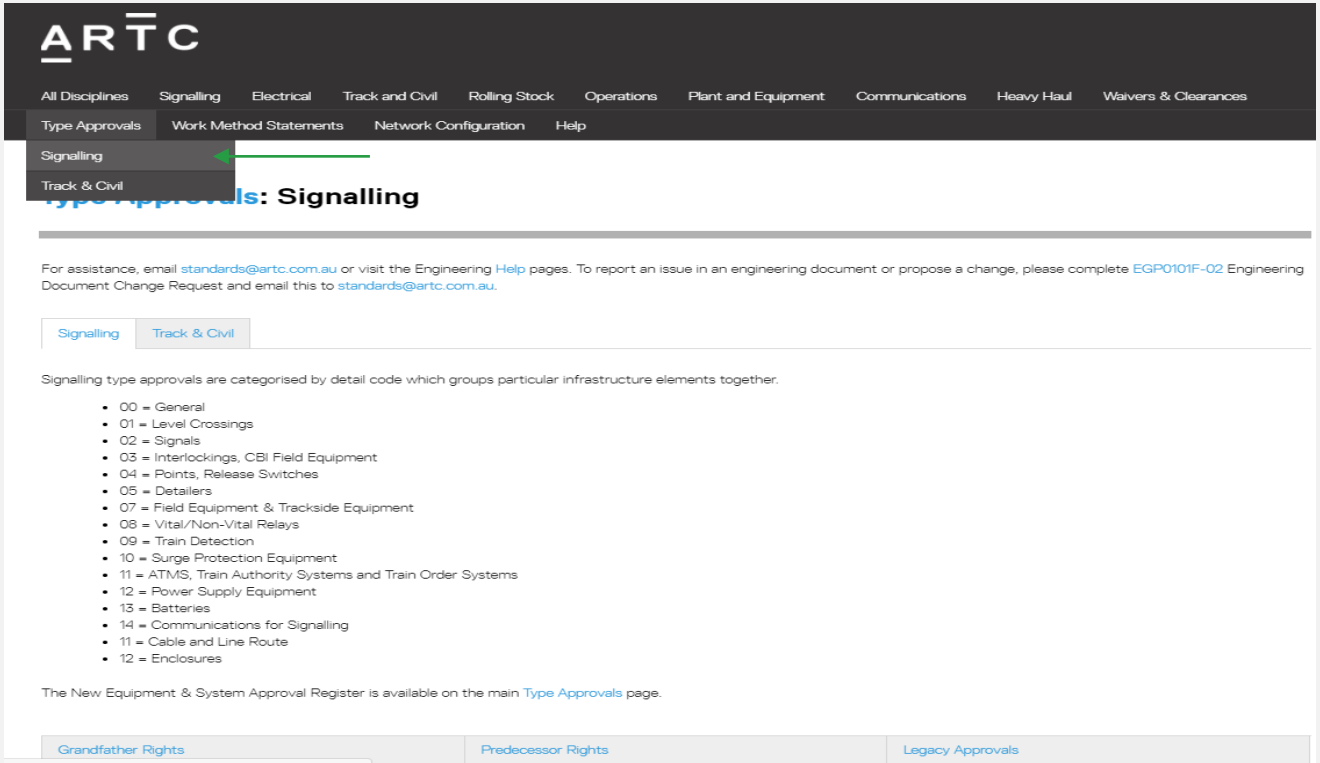
MAINTENANCE

Number	Title	Last Updated	Version	Document Type (under current document structure)	Relevant Procedure or Work Instruction	Applicability				
						SA (S)	WA (W)	VIC (V)	NSW (N)	QLD (Q)
General										
ESB-08-01	Signal Circuit Correlation Check	30 Apr 08	1.0	Bulletin					N	Q

ESB-08-01 Signal Circuit Correlation Check provides information about completing a correlation check when undertaking alterations to existing signalling circuits.

These are found in the Guidelines section.

NEW EQUIPMENT AND SYSTEM APPROVALS



- The New Equipment and Systems Approvals page provides details about the equipment and systems that have been approved by ARTC for use on ARTC assets.

- To access the New Equipment and Systems Approvals page, select T**ype Approvals**, then **Signalling** from the main menu.

NEW EQUIPMENT AND SYSTEM APPROVALS

SIGNALS

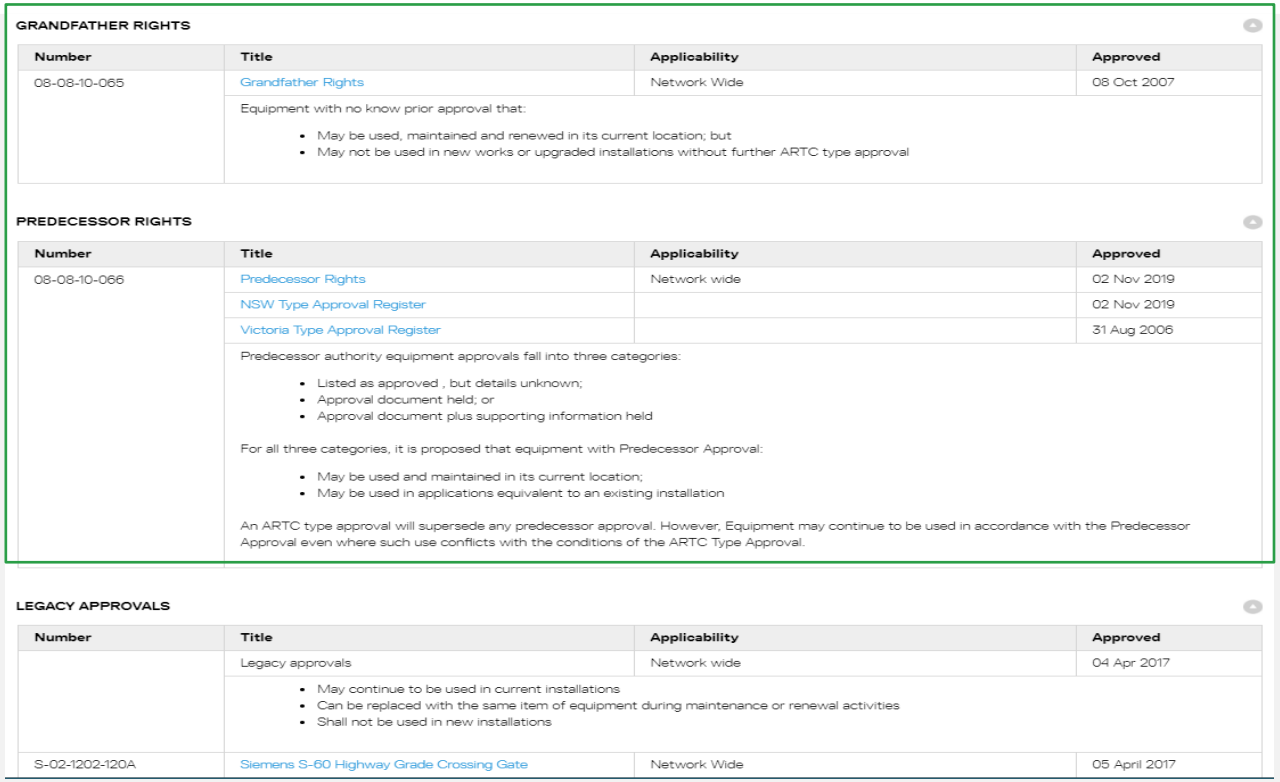
Number	Title	Applicability	Approved
08-08-10-021	'Westinghouse Signals Australia' RM4 range of LED Signal Light Units	Network Wide	06 Dec 2005
08-08-10-042	'Westinghouse Rail Systems Australia' LED Banner Repeater Signal Units	Victoria	30 Nov 2006
S-02-10-106	'Invensys Rail' RM4 Type 92 LED Signal	Network wide	08 Nov 2010
S-02-1008-117A	'Aldridge' LED Signal Lamp Case	Network Wide	12 Sep 2018
TAS-02-1208-IR126	'Invensys' 5518/12XRR92 LED Signal	Network Wide	05 Oct 2012
TAS-02-1306-IR136	'Siemens' 140mm Subsidiary LED	Network Wide	26 Sep 2013
TAS 02-1510-UGL-177	UGL Limited' LED Signals (12V DC & 120V AC)	Network Wide	31 Oct 2015
S-02-1510-177	UGL Limited LED Signal Light Units	Network Wide	30 Mar 2016
S-02-1511-181	UGL Limited – FL-03 LED Signal	Network Wide	28 Apr 2016
NESA-S004	Metwest Tilting Signal	Network Wide	23 May 2019
NESA-S005	'Aldridge' LED 125mm Subsidiary Signals	Goulburn (specific locations)	01 Apr 2019
NESA-S012	'Aldridge' RL570-X 200mm LED & RL550-X 125mm LED	Network Wide	28 Oct 2020
NESA-S019	'Aldridge' 200mm Main Line LED Signal & 125mm Subsidiary LED Signal	Main line and subsidiary LED signals	30 May 2019
NESA-S025	'Aldridge' RL503x-x 200mm (Main line) LED signal & RL500x-x125mm (Subsidiary) LED signal	Parkes to Narromine	16 Aug 2019

INTERLOCKINGS, CBI FIELD EQUIPMENT

Number	Title	Applicability	Approved
08-08-10-035	Alstom VPI II Interlocking System	Parkes to Broken Hill train order working only	08 May 2006
08-08-10-059	'Siemens' SIMATIC (SICAS 7) Interlocking System	Syd – Melb Passing Lanes project – trial only	10 Apr 2007
08-08-10-058	'Safetran' Geographic Signalling System (GEO)	Network wide	07 May 2007
S-01-10-096	'Invensys Rail' Westrace Computer Based Interlocking System	Network wide	13 Sep 2010
S-03-10-108	'Invensys Rail' Westrace Protocol Convertor CNA1000	Network wide	11 Oct 2010
S-01-1204-130B	Siemens Westrace MkII Computer Based Interlocking System	Network Wide	04 Jan 2018

- This section lists all of the ARTC signalling type approvals.
- It provides a hyperlink to the type approval certificate and conditions of use.

NEW EQUIPMENT AND SYSTEM APPROVALS



GRANDFATHER RIGHTS

Number	Title	Applicability	Approved
08-08-10-065	Grandfather Rights	Network Wide	08 Oct 2007
	Equipment with no know prior approval that: • May be used, maintained and renewed in its current location; but • May not be used in new works or upgraded installations without further ARTC type approval		

PREDECESSOR RIGHTS

Number	Title	Applicability	Approved
08-08-10-066	Predecessor Rights	Network wide	02 Nov 2019
	NSW Type Approval Register		02 Nov 2019
	Victoria Type Approval Register		31 Aug 2006
	Predecessor authority equipment approvals fall into three categories: • Listed as approved , but details unknown; • Approval document held; or • Approval document plus supporting information held For all three categories, it is proposed that equipment with Predecessor Approval: • May be used and maintained in its current location; • May be used in applications equivalent to an existing installation An ARTC type approval will supersede any predecessor approval. However, Equipment may continue to be used in accordance with the Predecessor Approval even where such use conflicts with the conditions of the ARTC Type Approval.		

LEGACY APPROVALS

Number	Title	Applicability	Approved
	Legacy approvals	Network wide	04 Apr 2017
	• May continue to be used in current installations • Can be replaced with the same item of equipment during maintenance or renewal activities • Shall not be used in new installations		
S-02-1202-120A	Siemens S-60 Highway Grade Crossing Gate	Network Wide	05 April 2017

Grandfather Rights is equipment with no prior approval that:

- may be used, maintained and renewed in its current location
- may not be used in new works or upgraded installations without further ARTC type approval.

Predecessor authority equipment approvals fall into three categories:

- listed as approved, but details unknown
- approval document held
- approval document plus supporting information held.

NEW EQUIPMENT AND SYSTEMS APPROVALS

AUSTRALIAN RAIL TRACK CORPORATION LTD

Ref No: 00-0704-054c
Date: 24th September 2008

Equipment Type Approval

Subject: 'ARTC' Consolidated list of predecessor type approvals

The following lists the individual type approval numbers of Signalling Equipment manufactured by various makers which have been issued by ARTC predecessor organisations and which are hereby extended to apply on ARTC infrastructure under Type Approval Certificate **08-08-10-066** subject only to any conditions shown on that Certificate and the Conditions of Use from the original approval certificates.

R.I.C./RailCorp approvals use *... reference; Thiess Infraco approvals use TAC... reference; Connex approvals use CML... reference; Pacific National approvals use PN... reference; Freight Australia approvals use FAIM... reference.

ABW Engineering

Ref. No.	Categories	Items	Approval Date
*96/p281	Track Circuits	AC 6 ohm track resistor	Prior to 01/06/1996
*96/p282		AC Feed Transformer, Store 47	
*96/p286		DC Track feed set - Store 72	
*96/p289		DC Track feed set - Store 70	
*96/p346	Power Supply	Store 74 , 12V dc, 20 amp	
*96/p347		Store 74,12V dc, 30 amp and 40 amp	
*96/p348		Store 103 50V dc, 2.5 amp	
*06/0303	Trackside Installation.	Steel plates designed to be installed on the concrete sleepers and cover cables against risks of damage.	15/03/2006

Aldridge

Ref. No	Categories	Items	Approval Date
*96/p319	Signals	Signal Heads - Main	Prior to 01/06/1996
*96/p322		Signal Heads - shunt & subsidiary	
*96/p325		Signal Head - running turnout	
*96/p328		Signal head - tunnel, LED lamp unit	
*96/p334		Route indicator - stencil	
*01/0301		Repeat Signal (4 White Lights)	22/03/2001
*02/0702		LED (Light Blue), Guards Indicator	24/07/2002

The Predecessor approval lists all the signalling equipment from predecessor organisations that had been approved. This also gives the conditions of use for these on the ARTC network.

NEW EQUIPMENT AND SYSTEMS APPROVALS

ARTC

NEW EQUIPMENT AND SYSTEM APPROVAL CERTIFICATE

Certificate No. NESA-S019 (v1.0)

Approval date	30 May 2019
Approved by	General Manager Technical Standards
Report no.	NESA-S019
Report date	14 May 2019
This certificate is issued to	
Supplier	Aldridge Railway Signals Pty Ltd
In respect of	
Manufacturer	Aldridge Railway Signals Pty Ltd 44 Adderley Street East Lidcombe NSW 2141
Product description	'Aldridge' 200mm Main line LED signal & 125mm Subsidiary LED signal
Item identification	**RL403-X 200mm Main line LED signal - 12V - Medium Range**

Module Part No.		
RL403-1 V1	RED	12VAC/12VDC
RL403-2 V1	YELLOW	12VAC/12VDC
RL403-3 V1	GREEN	12VAC/12VDC
RL403-4 V1	WHITE	12VAC/12VDC

RL400-X 125mm Subsidiary LED signal - 12V - Medium Range

Module Part No.		
RL400-1 V1	RED	12VAC/12VDC
RL400-2 V1	YELLOW	12VAC/12VDC
RL400-3 V1	GREEN	12VAC/12VDC
RL400-4 V1	WHITE	12VAC/12VDC
RL400-5 V1	BLUE	12VAC/12VDC
RL400-6 V1	BLUE/WHITE	12VAC/12VDC

For 120VAC Signals

Part No.	
PT-0610	Transformer 120VAC/12VAC 30VA

Page 1 of 2
Australian Rail Track Corporation

ARTC

NEW EQUIPMENT AND SYSTEM APPROVAL CERTIFICATE

Application	Main line and subsidiary LED signals
Relevant Standards	EGP-21-01 New Equipment and System Approvals SPS 02 - Environmental Conditions SPS 05 – Electrical & Components (Ratings & Construction Requirements) SPS 11 – Signals
Conditions of Approval	1. For use in accordance with standard typical circuits only. 2. Not suitable for use in tunnels. 3. Not approved for use with Microlok lamp driven signals. 4. The PT-0610 transformer nominal input voltage is 120VAC. Input voltage range shall be 98VAC to 132VAC. 5. The LED may be directly driven via a nominal 12VAC or 12VDC supply. Input voltage range shall be between 10V – 18V.

A general condition of approval is that the supplier remains accredited to ISO 9001 specifically for these products and ARTC is advised on a 12 monthly basis that accreditation is current. ARTC reserves the right to conduct its own audit of the manufacture and supply of these components to AS 19011.

Any subsequent change to the design, materials or manufacturing process is not covered by this approval. The manufacturer shall notify ARTC of any modification or changes in order to obtain a valid certificate.

Note/Comments

Issue date

Expiry date N/A

Issued by

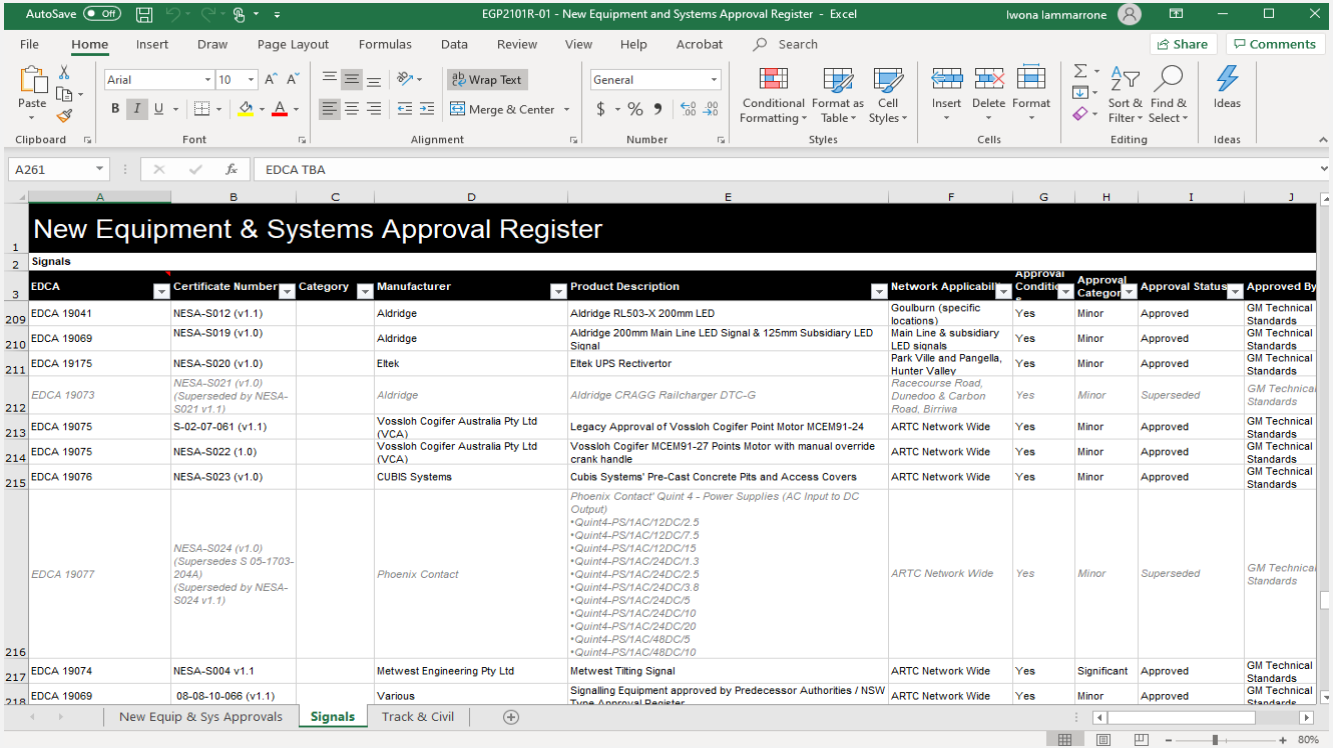
John Furness
ARTC Manager Standards

Page 2 of 2
Australian Rail Track Corporation

The new format type approval certificate is shown. This has details of the:

- item of equipment
- the relevant standards
- Conditions of Approval or use
- Approved Item List

NEW EQUIPMENT AND SYSTEMS APPROVALS



The new format Approval Register is shown, note the:

- Track & Civil Tab
- and, Already in Use tab

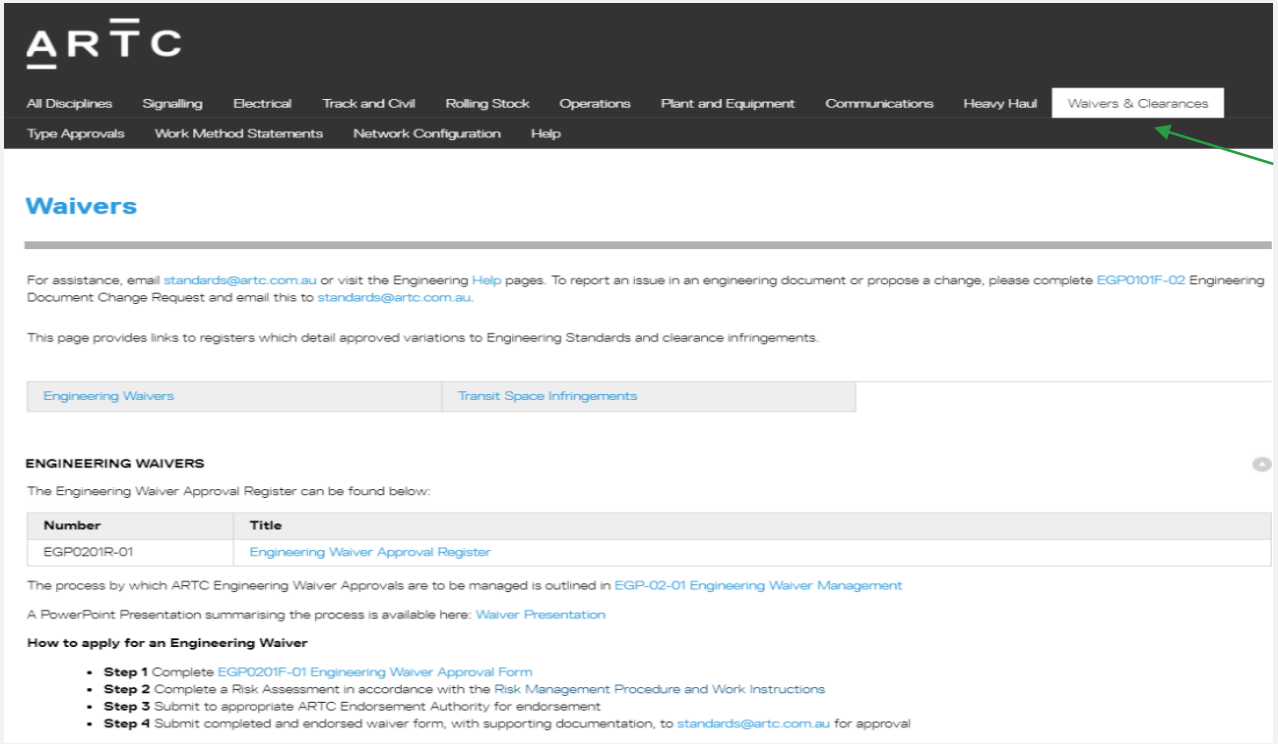
NEW EQUIPMENT AND SYSTEMS APPROVALS

- Approval
  - New equipment is approved in accordance with EGP-21-01.
  - Projects should arrange for the submission of required information to Signals Standards for new approvals.
  - Type approved equipment from other railways cannot be used without approval from ARTC.

- Designs with New Equipment
  - The signal design engineer or signal design manager is responsible that all equipment included in a design is type approved.

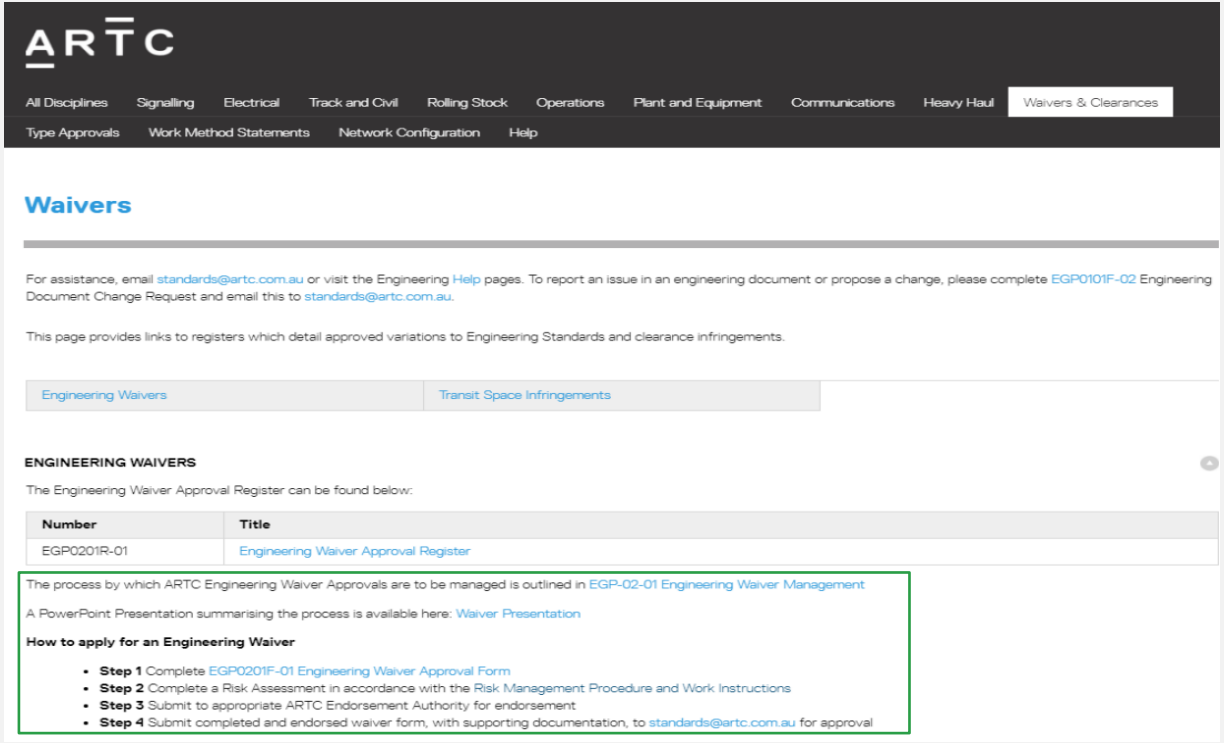
- Commissioning of New Equipment
  - The Commissioning Engineer/Commissioning Manager/Tester in Charge is responsible for ensuring that only type approved equipment is installed and commissioned.

ENGINEERING - WAIVERS



Engineering Waivers allow for variations from mandatory requirements of ARTC Engineering Procedures, Standards, Code of Practice, Specifications and Instructions (known as Engineering Standards).

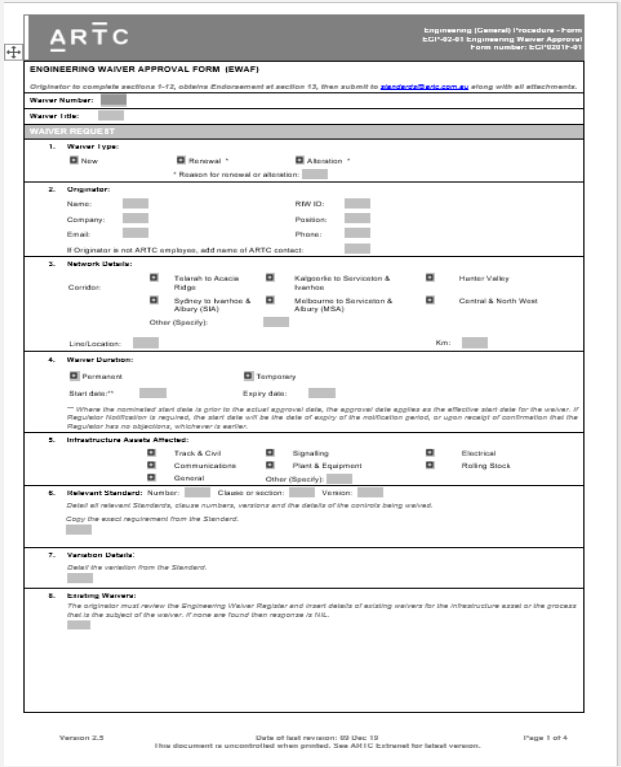
ENGINEERING - WAIVERS



EGP-02-01 Engineering Waiver Approval outlines the process for obtaining an Engineering waiver.

There are four steps that need to be completed in order to obtain an Engineering waiver approval number.

ENGINEERING - WAIVERS



ARTC

Engineering (General) Procedure - Form
ECI*-02-01 Engineering Waiver Approval
Form number: ECI*0201F-01

ENGINEERING WAIVER APPROVAL FORM (EWAF)

Originator to complete sections 1-12, obtains Endorsement at section 13, then submit to standards@arte.com.au along with all attachments.

Waiver Number:

Waiver title:

WAIVER REQUEST

1. **Waiver type:**
   - ☐ New
   - ☐ Renewal *
   - ☐ Alteration *

   * Reason for renewal or alteration:

2. **Originator:**
   - Name: RIW ID:
   - Company: Position:
   - Email: Phone:

   If Originator is not ARTC employee, add name of ARTC contact:

3. **Network Details:**
   - Corridor:
     - ☐ Telarah to Acacia Ridge
     - ☐ Kalgoorlie to Servicton & Ivanhoe
     - ☐ Hunter Valley
     - ☐ Sydney to Ivanhoe & Albury (SIA)
     - ☐ Melbourne to Servicton & Albury (MSA)
     - ☐ Central & North West
   - Other (Specify):
   - Line/Location: Km:

4. **Waiver Duration:**
   - ☐ Permanent
   - ☐ Temporary
   - Start date:** Expiry date:

   ** Where the nominated start date is prior to the actual approval date, the approval date applies as the effective start date for the waiver. If Regulator Notification is required, the start date will be the date of expiry of the notification period, or upon receipt of confirmation that the Regulator has no objections, whichever is earlier.*

5. **Infrastructure Assets Affected:**
   - ☐ Track & Civil
   - ☐ Signalling
   - ☐ Electrical
   - ☐ Communications
   - ☐ Plant & Equipment
   - ☐ Rolling Stock
   - ☐ General
   - Other (Specify):

6. **Relevant Standard:** Number: Clause or section: Version:

   Detail all relevant Standards, clause numbers, versions and the details of the controls being waived.

   Copy the exact requirement from the Standard.

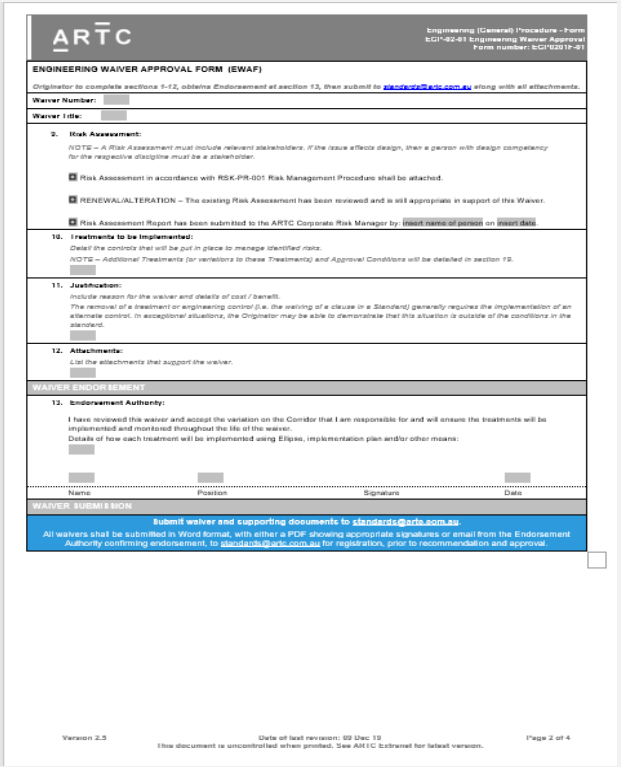
7. **Variation Details:**

   Detail the variation from the Standard.

8. **Existing Waivers:**

   The originator must review the Engineering Waiver Register and insert details of existing waivers for the infrastructure asset or the process that is the subject of the waiver. If none are found then response is NIL.

Version 2.5 Date of last revision: 09 Dec 19 Page 1 of 4
This document is uncontrolled when printed. See ARTC Extranet for latest version.



ARTC

Engineering (General) Procedure - Form
ECI*-02-01 Engineering Waiver Approval
Form number: ECI*0201F-01

ENGINEERING WAIVER APPROVAL FORM (EWAF)

Originator to complete sections 1-12, obtains Endorsement at section 13, then submit to standards@arte.com.au along with all attachments.

Waiver Number:

Waiver title:

9. **Risk Assessment:**

   NOTE – A Risk Assessment must include relevant stakeholders. If the issue affects design, then a person with design competency for the respective discipline must be a stakeholder.

   ☐ Risk Assessment in accordance with RSK-PR-001 Risk Management Procedure shall be attached.

   ☐ RENEWAL/ALTERATION – The existing Risk Assessment has been reviewed and is still appropriate in support of this Waiver.

   ☐ Risk Assessment Report has been submitted to the ARTC Corporate Risk Manager by: insert name of person on insert date.

10. **Treatments to be Implemented:**

    Detail the controls that will be put in place to manage identified risks.

    NOTE – Additional Treatments (or variations to these Treatment(s) and Approval Conditions will be detailed in section 12.

11. **Justification:**

    Include reason for the waiver and details of cost / benefit.

    The removal of a treatment or engineering control (i.e. the waiving of a clause in a Standard) generally requires the implementation of an alternate control. In exceptional situations, the Originator may be able to demonstrate that this situation is outside of the conditions in the standard.

12. **Attachments:**

    List the attachments that support the waiver.

WAIVER ENDORSEMENT

13. **Endorsement Authority:**

    I have reviewed this waiver and accept the variation on the Corridor that I am responsible for and will ensure the treatments will be implemented and monitored throughout the life of the waiver.
    Details of how each treatment will be implemented using Ellipse, implementation plan and/or other means:

Name	Position	Signature	Date

WAIVER SUBMISSION

Submit waiver and supporting documents to standards@arte.com.au.
All waivers shall be submitted in Word format, with either a PDF showing appropriate signatures or email from the Endorsement Authority confirming endorsement, to standards@arte.com.au for registration, prior to recommendation and approval.

Version 2.5 Date of last revision: 09 Dec 19 Page 2 of 4
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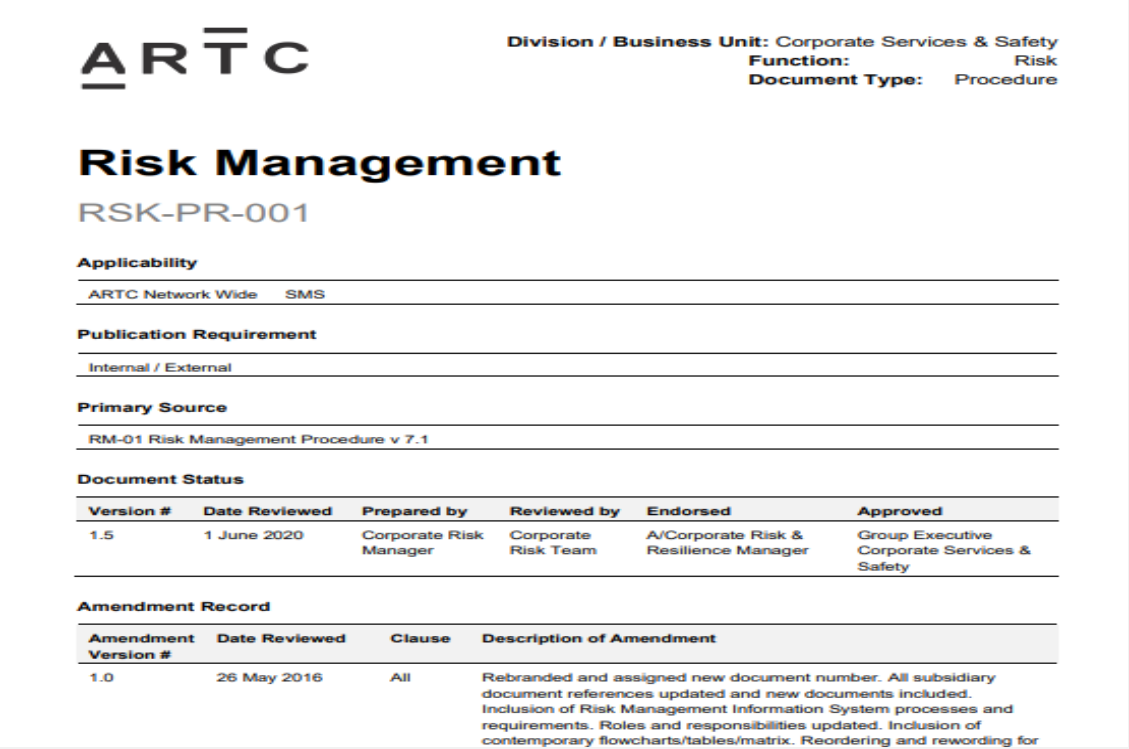
Step 1 - Complete the EGP0201F-01 Engineering Waiver Approval form.

ENGINEERING - WAIVERS

- The compilation of an Engineering Waiver or the conduct of a risk assessment for signalling design, construction or maintenance is a technical task covered by the Signals Competency process. Those involved in the process shall be duly qualified under the Signals Competency process.

- The Originator is responsible for ensuring applications for Engineering Waivers are completed accurately and in accordance with Engineering waiver Management Procedure – EGP-02-01.

ENGINEERING - WAIVERS



ARTC

Division / Business Unit: Corporate Services & Safety
Function: Risk
Document Type: Procedure

Risk Management

RSK-PR-001

Applicability

ARTC Network Wide SMS

Publication Requirement

Internal / External

Primary Source

RM-01 Risk Management Procedure v 7.1

Document Status

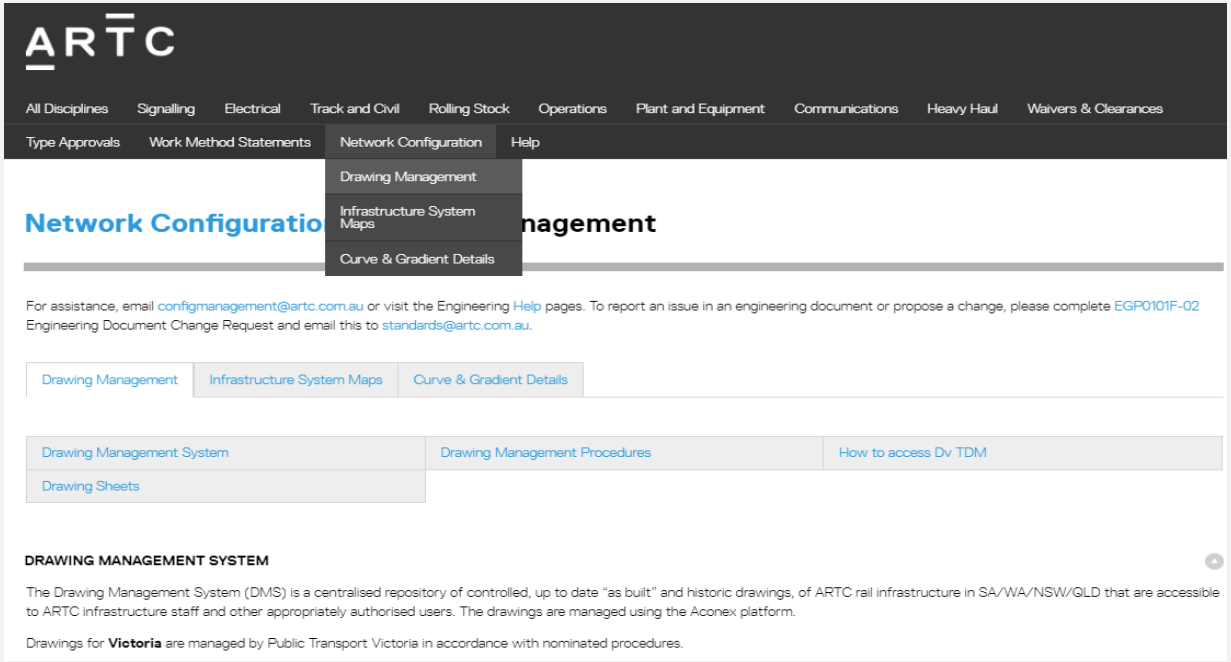
Version #	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
1.5	1 June 2020	Corporate Risk Manager	Corporate Risk Team	A/Corporate Risk & Resilience Manager	Group Executive Corporate Services & Safety

Amendment Record

Amendment Version #	Date Reviewed	Clause	Description of Amendment
1.0	26 May 2016	All	Rebranded and assigned new document number. All subsidiary document references updated and new documents included. Inclusion of Risk Management Information System processes and requirements. Roles and responsibilities updated. Inclusion of contemporary flowcharts/tables/matrix. Reordering and rewording for

- **Step 2** – Complete a risk assessment in accordance with RSK-PR-001 Risk Management procedure.
- **Step 3** – Submit waiver and relevant attachments to appropriate ARTC Corridor Manager (or equivalent) for endorsement.
- **Step 4** – Submit completed and endorsed waiver form, with supporting documentation to *standards@artc.com.au* for approval.

DRAWING MANAGEMENT SYSTEM



- ARTC manages engineering drawings and related documentation in a Drawing Management System using Aconex.
- Drawings for NSW, QLD, WA and SA-are recorded in this system.
- Drawings for VIC are managed by the Victorian Department Of Transport.

- The Drawing Management System (Aconex) is a centralised repository of controlled, up to date, 'as built' and historic drawings of rail infrastructure.

DRAWING MANAGEMENT SYSTEM

- The processes required for the drawing management system are outlined in the Configuration Management processes adopted by ARTC. These processes require approved projects and the authorisation of the issue of drawings. Drawings are issued for a specific purpose or project and may only be used for that purpose.

- When the design, project or other activity is completed, the drawings must be updated, certified and submitted back into the Drawing Management System. Archive records are kept of previous issues of the drawings.

- When a group of drawings is issued for design or a project, then **all** of the drawings must be resubmitted not just the drawings that were changed. The completed drawings must be duly checked and certified to be As-Built.

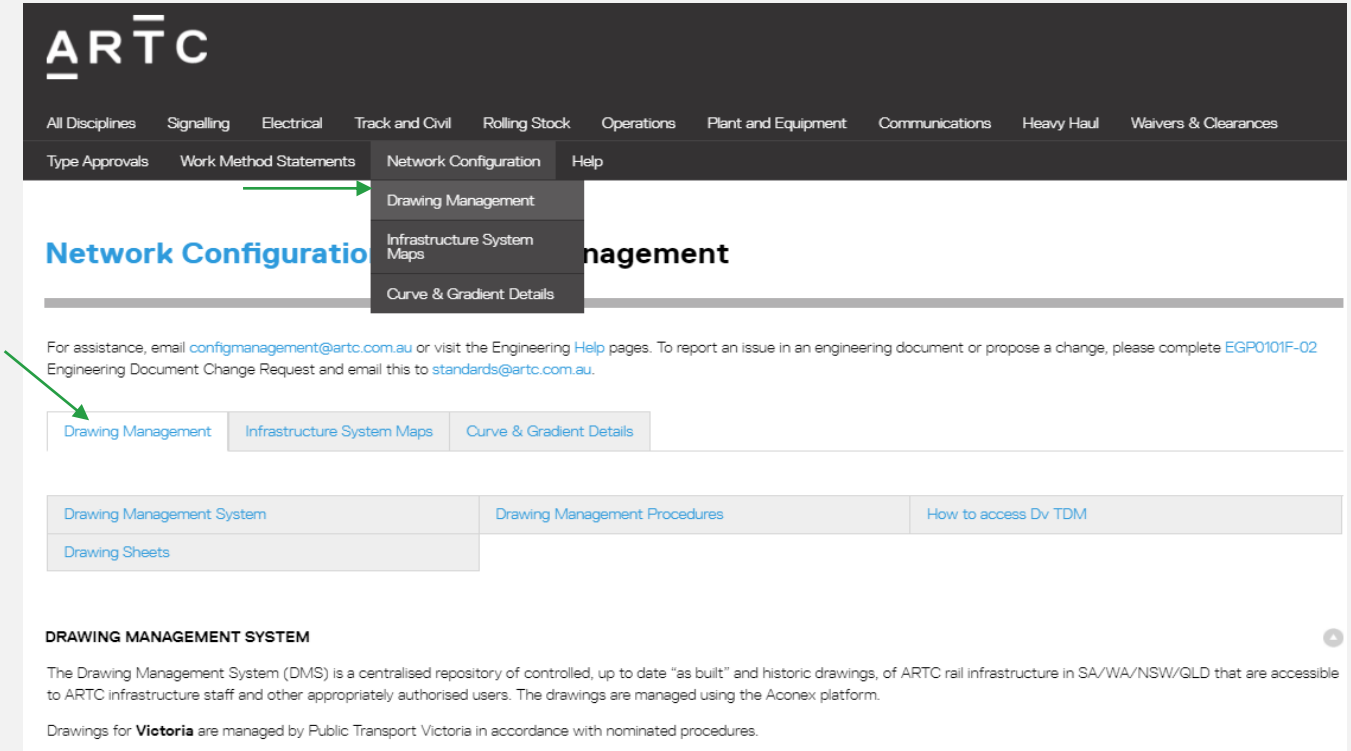
- Related copies of the Commissioning documentation and Master Testing copies are also kept as records.

DRAWING MANAGEMENT SYSTEM

Steps required:

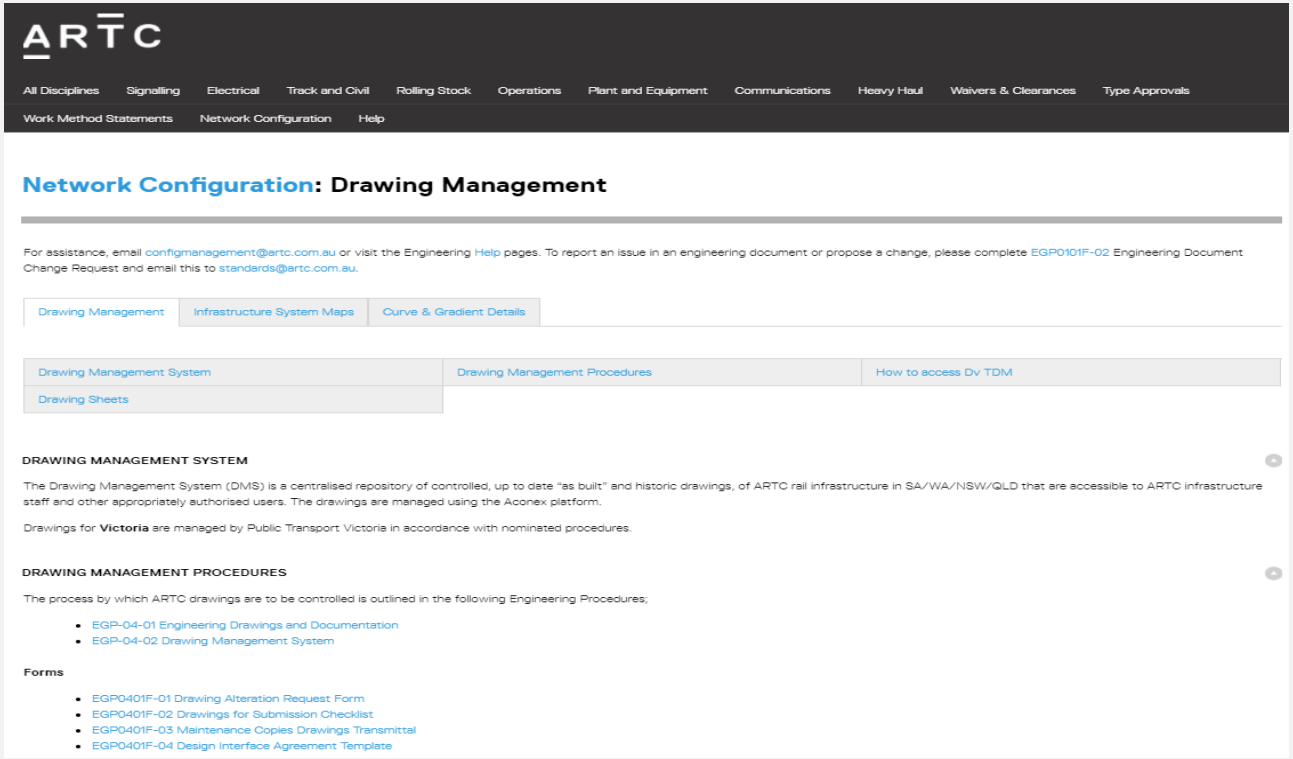
- Request for NAN number/ARTC project number. This is used to track the issue and return of the engineering drawings.
- Request for Drawings, authorisation of the request and issue of drawings.
- Submission of As-Designed drawings
- Submission of As-Commissioned drawings and commissioning documentation.
- Submission of As-Built documentation and certification records.

DRAWING MANAGEMENT SYSTEM



- Internal and external signals staff who require access to the Drawing Management System need to apply as per the referenced forms.
- This permits viewing of current drawings and identification of drawings to be requested.
- The system will also show the status of drawings in projects when the upgrade is completed.

DRAWING MANAGEMENT SYSTEM



ARTC

All Disciplines | Signalling | Electrical | Track and Civil | Rolling Stock | Operations | Plant and Equipment | Communications | Heavy Haul | Waivers & Clearances | Type Approvals

Work Method Statements | Network Configuration | Help

Network Configuration: Drawing Management

For assistance, email configmanagement@artc.com.au or visit the Engineering Help pages. To report an issue in an engineering document or propose a change, please complete EGP0101F-02 Engineering Document Change Request and email this to standards@artc.com.au.

Drawing Management | Infrastructure System Maps | Curve & Gradient Details

Drawing Management System | Drawing Management Procedures | How to access Dv TDM

Drawing Sheets

DRAWING MANAGEMENT SYSTEM

The Drawing Management System (DMS) is a centralised repository of controlled, up to date "as built" and historic drawings, of ARTC rail infrastructure in SA/WA/NSW/QLD that are accessible to ARTC infrastructure staff and other appropriately authorised users. The drawings are managed using the Aconex platform.

Drawings for **Victoria** are managed by Public Transport Victoria in accordance with nominated procedures.

DRAWING MANAGEMENT PROCEDURES

The process by which ARTC drawings are to be controlled is outlined in the following Engineering Procedures;

- EGP-04-01 Engineering Drawings and Documentation
- EGP-04-02 Drawing Management System

Forms

- EGP0401F-01 Drawing Alteration Request Form
- EGP0401F-02 Drawings for Submission Checklist
- EGP0401F-03 Maintenance Copies Drawings Transmittal
- EGP0401F-04 Design Interface Agreement Template

- The procedures that apply to the management of signalling drawings are available on the Network Configuration: Drawing Management extranet page.
- Drawing templates are also available.

SIGNALS COMPETENCY ASSESSMENT

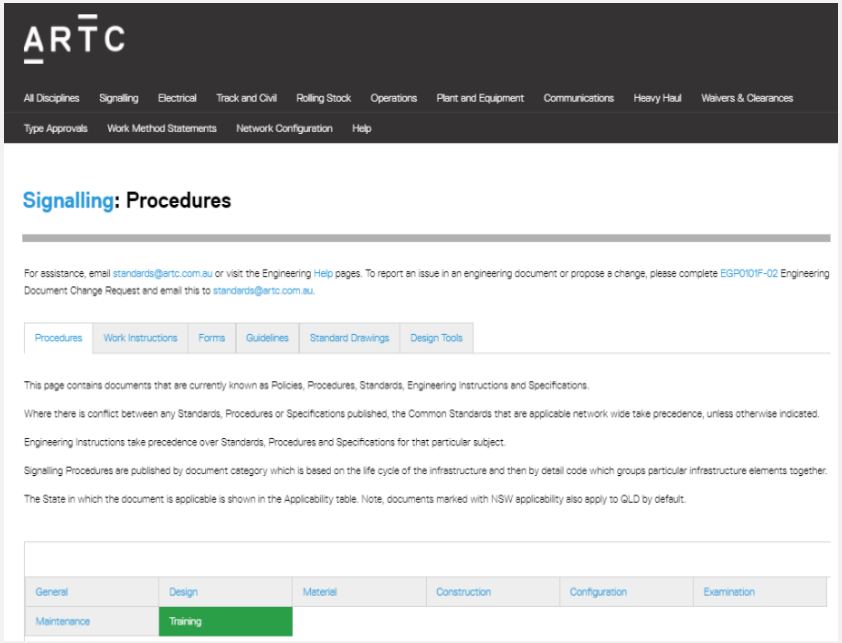
Signals Competency Requirements

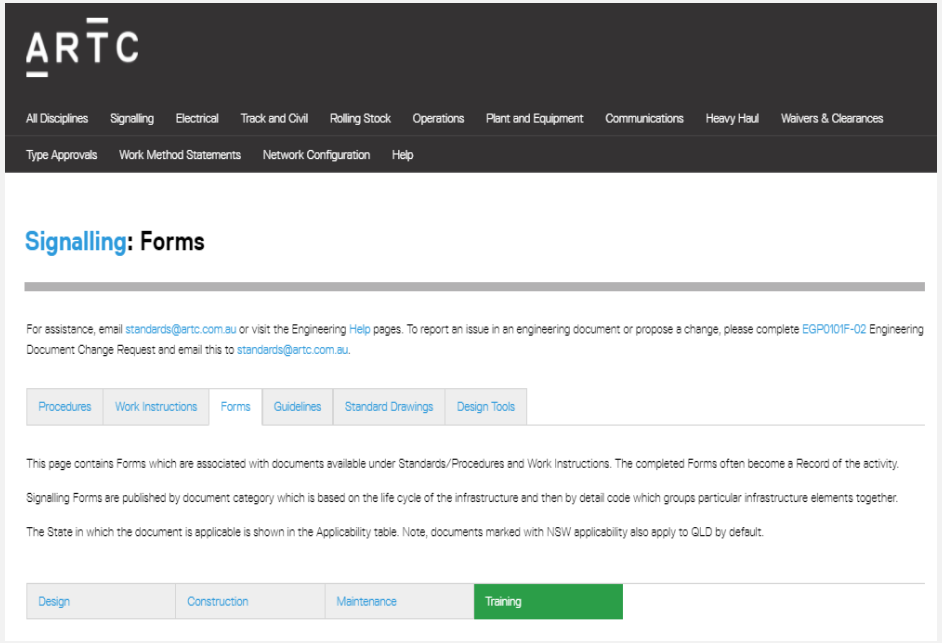
- There are procedures that apply to the management of signalling competency assessment
- EST-20-02 Signalling Staff Competency Assessment
- EST-20-03 Applying for Signals Competency

- The document EST-20-03 provides a step by step guideline to applying for signals competency. This process needs to be followed to ensure that all the required information is provided

- The first step is the Signals Standards Induction and Assessment
- This process is being updated to be undertaken on line using the Rail Industry Worker internet portal.
  - See *https://www.riw.net.au/*

SIGNALS COMPETENCY ASSESSMENT





These procedures are at: Signalling > Procedures > Training

Forms are at: Forms > Training

Thank you for completing this induction.

You are now required to successfully complete the Signalling Standards Induction Assessment.

If you have any questions, please email standards@artc.com.au.