Signals, CS&C Competency Management System Guidance for the Rail Safety Worker (RSW)

PURPOSE

The purpose of this document is to provide the Rail Industry with guidance on the MTM Signals, CS&C, and Signalling Project Competency Management system.

It contains suggested practices for compiling documents and evidence to place within Onsite. In addition, shows examples of completed documents that would be expected to be provided for an MTM assessment.

It allows the RSW to undertake their competency assessment with confidence and knowing that their assessment will comply with MTM requirements.

It also allows the RSW to compile all evidence and complete all forms prior to gaining a current and certified MTM signals assessor.

Suggested Process to follow for an Assessment

Example of "suggested, "Process to follow for a RIW to gain competency within MTM Signals and CS&C Competency Management System

- Refer at all times to the MTM Signal and CS&C document L1-CHE-MAN 003 Signals Rail Safety Worker Competence (The Manual) and the associated Appendix One Matrix. These are commonly referred to as the 'manual'.
- Note that all MTM competency documents and forms are available on the Metro Academy Website. http://www.metrotrains.com.au/academy/
- The suggested process is to undertake the assessment "outside of the Onsite database", and then when assessment is complete, to then place within the "onsite" system to continue the process.
- And to only apply for the "skills' (each line on the SoC is a skill) that are required to undertake anticipated works for the upcoming 4 years (as it is quite easy in the updated MTM CMS to apply for upgrades on an SoC)

1. Complete the process for gaining a RIW card and register as a RIW, and supply the 100 points identification and obtain your RIW card and RIW number.

2. Complete all mandatory training for the role, such as;
    a. MTM Safety Leadership,
    b. Train Track Safety Awareness,
    c. MTM signal standards inductions (**Note that the previous VRIOGS versions are NOT acceptable to MTM),**
    d. Around the track role,

e. OH&S white card safety induction,
f. Site specific and other possibly required items for the Role.
g. Health and medical assessments

3. Complete all necessary courses to gain competency in signalling and rail systems courses for specific technology such as CBI, CBTC, axle counters, train control systems-please refer to the "Manual'

4. Where a RSW is seeking competency levels 2 and 3 then specific MTM "domain knowledge" such as the following are obtained.

    a. MTM signal principles
    b. MTM signal standards,
    c. train dynamics,
    d. headways
    e. line speeds
    f. curves and gradients knowledge,
    g. Pass Assets
    h. DMS procedures, cell library, symbols, seed files,etc
    i. MTM signals standard plans,
    j. MTM rules and operational procedures,
    k. type of rolling stock
    l. traction bonding, electrolysis, earthing, lightning and protection systems
    m. power supplies, emergency services supplies
    n. interfaces to other rail operators
    o. communications architecture and Victrack services
    p. Train control systems and disaster recovery centre systems and architecture, etc
    q. Network assets and locations
    r. And other requirements associated to the rail systems areas as they are necessary for;
        i. SAP production,
        ii. control tables
        iii. and other "skills".

    Note that each line on a SoC is a "**skill**' and requires a combination of both training and work experience to obtain a competence in that skill.

5. Complete the "Request for Assessment Form", sign, have it witnessed and dated

6. Complete the "Work Experience Record Form' with all individually identified references W1,W2,etc and all associated referenced attachments, supervisor to sign and date and work experiences to also capture simple, or complex work experiences. Note that only the WER relevant to the actual assessment being undertaken is required (not a complete history of the RSW). Ideally this is 25 pages or less.

7. Complete the "Education and Training Records Form' and all associated referenced attachments, T1,T2, etc scanned and placed within that one file, have supervisor sign and date

8. Complete the " Checklist" for the **role**, with all training and work experience references against every skill(each line within the checklist), and note that it is the **RSW themselves** that complete the comments area on the right hand side of the checklist area, with sufficient comments to validate the level self-assessed

9. Complete the "draft self-assessed SoC" for the Role, with levels self assessed taken from the checklist and then directly transferred to the SoC. The RSW should sign and date the draft SoC.

10. Undertake the assessment and complete the final checklist, and the final SoC for the role, with the assessor and SME, all to sign and date.

PRIOR to heading to Onsite to load any competency documents

11. Have all files ready, scanned, and electronically saved and placed within a folder prior to heading to Onsite to do any uploading of files

12. All files should be named correctly

    a. Persons RIW number
    b. first name then last name
    c. then actual file name

13. All files should be correct size-ideally below 2 meg (but WER, training can be larger and up to 5 or in some areas up to 10 meg, and ideally under 25 pages)

14. All files should be scanned correctly with regards

    a. file size,
    b. orientation
    c. and also in colour if at all possible-especially with certificates

15. All pages in files should be orientated to be able to be read on a computer without any need to rotate

16. All blank pages in files should be removed to save on file size

17. **Request for assessment- form** to place into onsite under its own area

18. **Checklist form** to place into onsite under its own area

19. **MTM Safety Leadership training** certificate to be placed in its own area

20. **MTM Signal induction** to be placed in its own area

21. **Resume** or CV to be placed into its own area

22. **MTM Draft SoC for the Role** to be placed in its own area

23. **MTM Final SoC for the Role**
    a. Is to have any other company specific competency sheet for the person added to it when scanned, and the MTM SOC should be the first document read

    b. Final MTM SoC to be saved only-BUT SENT TO THE ASSESSOR for them to upload within Onsite (as the RSW cannot upload their own final SoC)

24. **Request for upgrade form**-When doing an upgrade SOC the request for **upgrade form** is used—and the form is **actually a combined request for upgrade form** and a **combined checklist** associated for the upgrade.
    a. The form should be placed into both the area in onsite for the,
        i. request for assessment, and
        ii. checklist

25. **Training records** and as one single file and not separate certificates, to place into onsite under the "educational level" that is relative and required for the RSW in the **ROLE** as defined in Appendix One, for an engineer or designer this would be called the "degree or bachelor" qualification. And for trades area this might be diploma, certificate 4, certificate 3

    a. The training and education record should also have within it all scanned certificates that are labelled as T1, T2, T3, T4 etc to match the entry in the actual record sheet.

    b. It should also include the engineering degree and/or statements associated with the degree.

    c. It should also capture the MTM Safety Leadership training, plus the MTM signal standards induction

    d. It should also include the company spreadsheet or training records with all training courses

26. **The Work Experience Record** to be placed under its own name in Onsite

27. Capture any additional items for trackside safety or "around track "under their own folders in Onsite

28. All companies should also capture all electronic native versions of all files from the RSW, all word and all excel versions to save-not just the PDF versions.

29. All training records and scanned certificates should be kept in the companies competency system filing folder

See also;

- **sample documents of;**
    - Work experience records
    - Education and training records
    - Numbered training certificates
    - Resume
    - Request for assessment
    - Draft SoC
    - Final SoC

- **tick list for compilation of all documents and evidence required for the assessment process**
- **checklist with comments and guidance**

EXAMPLE TICKLIST

Name-

Role being applied for-

Date-

Tick List of items required for an assessment

yes/ no	Checklist Items
	All information for the RSW to become a registered RIW within Onsite/Pegasus, and obtained 100 point check, obtained their RIW card and their RIW number
	Unique Student Number (USN) obtained
	Request for Competency Assessment included and signed and also witnessed
	Obtained the persons resume/CV and authenticated
	Education and training record sheet completed and signed
	National Certified training certificates and competencies captured
	Training certificates provided for Industry or Equipment Training
	Degree, diploma, grad dip, tertiary education captured
	All actual degrees, certificates, captured and labelled correctly, T1, T2, T3, etc
	MTM Safety Leadership training (SLT) completed and certificate captured in training register
	Work Experience Record (WER) provided and all WER labelled correctly and all work experiences signed and dated
	MTM Signalling Standards Induction assessed by assessor
	Checklist for the ROLE completed, signed by SME, assessor and dated
	Applicant has completed a Draft Statement of Competency-SoC for the Role
	Applicant has completed the final SoC for the Role as the assessed version
	MTM Track Safety Awareness certificate if required
	OHS Induction certificate if required
	Site Induction if required
	Medical and Health Assessment for Rail Safety Workers if required
	The RSW Company CMS profile is captured
	Company excel sheet RSW training register for the person
	All training records, work experience, SoC have been labelled correctly as files (the persons first name last name then the name of the file)
	All pages on all files are orientated to be able to be read on computer screen without need to rotate
	All files sizes are of 2 meg or below where possible (except WER, training records)
	All files saved in correct areas of the BT /Company server and in correct folders
	All files are scanned as required in either black and white, or colour as per MTM requirements
	The MTM and also the Company CMS are placed together and scanned as ONE FILE, with the MTM SoC being to first read document
	Capture all electronic files and place in the persons folder within Company system, and also Capture the native versions of all files from the RSW (word and excel versions)
	1-All files are uploaded to onsite for selection of the Role and then 2-Place training records under the required qualification for the role (degree, diploma, certificate) 3-select the assessor (DO NOT PUT FINAL SOC onto Onsite)

EXAMPLE REQUEST FOR ASSESSMENT

METRO	SIGNALS COMPETENCY ASSESSMENT REQUEST	
Form 2F-21 L4-CHE-FOR-073	Version: 1	Effective from: 1st February 2018

SIGNALS COMPETENCY ASSESSMENT REQUEST | **RIW ID #** **000 123 456**

A. Competency Classification Request Signal Design Engineer

Name:	David Fleming		
Address:	700 Collins street, Melbourne		
		Postcode:	3000
Telephone #:	0419 394 542	Email:	David. Fleming@metrotrains.com.au
Organisation:	MTM	Position:	Signal Engineer
Location:	Collins street, Melbourne		

B. Certificates and Records for Training and Education (These are uploaded to Rail Industry Worker portal):

1)	☒	Primary Qualification. Education Training relating to competencies to be assessed (e.g. Electrical IV Certificate or Engineering Degree). Provide a scanned copy of the Qualification and Academic Record.
2)	☒	Training Course Certificates from Rail Industry suppliers and training related to Signalling specific tasks and signalling equipment specific training.
3)	☒	Training & Education Record L4-CHE-FOR-071

C. Work Experience Record (These are uploaded to Rail Industry Worker portal):

1)	☒	Work Experience Record (mandatory to provide Work Experience Record for all work over previous 5 years). Use form L4-CHE-FOR-070. This must be verified by suitable Supervisors. Alternative formats must contain full information.
2)	☒	Forms L4-CHE-FOR-070 Work Experience Record – Verification Supervisors Declaration must be completed and submitted. Alternatives are not accepted.

D. Standards Induction & Safety Inductions (These are uploaded to Rail Industry Worker portal):

1)	☒	I confirm that I have completed the MTM Signals Standards Induction.
2)	☒	I confirm that I have completed the MTM Leadership course.

E. Assessment Checklist and Work Experience Records (These are uploaded to Rail Industry Worker portal):

I confirm that all of the information in:

- the ***Applicant Assessment Checklist*** is true and correct and fully reflects my qualifications, training and
- the ***Work Experience Record*** truly details work that I have performed and the responsibility level.

F. Restrictions

List any suspensions, cancellations or related restriction on any Competency Certificates or performance of Signalling tasks or rail safety tasks that have occurred in the previous 5 years for any accredited rail operator.

G. Declaration

I Declare that the information on this form and files uploaded to Rail Industry Worker is true and correct and fully provides all relevant details for the Assessment of my Signalling Competencies.

Signature: xxxxxxxx **Name:** xxxxxxxx Date: xxxxxxxx

Witness (can be another person from your own company, as long as an independent from the assessment process)

Signature: xxxxxxxx **Name:** xxxxxxxx Date: xxxxxxxx

Assessor to initial and date xxxxxxxx **as having reviewed the completed form**

EXAMPLE

Resume/CV

Resume/CV

Note-As a minimum the following information should be provided in a resume/CV

Persons Name- First Name Last Name

Address- Street number, Street, Suburb, City, Postcode

Contact details- land line, mobile phone, email address

Qualifications-such as;

- Degree,
- certificate, diploma, certificates of attendance
- other qualifications

Licences- such as;

- drivers licence,
- plant operator,
- Electricians A Grade,
- B Grade licence,
- ACMA cabler

Employment History

1-Current work ROLE,

- work location ,
- Employer
- and other details of actual works being undertaken

2-Previous work ROLES,

- work Locations,
- Employers
- and other details of actual works being undertaken

Referees-

Persons that could be contacted freely to obtain reference advice/checks or other information related to the person, and work performance, job history or other related details

Referee 1

Name

Role, and Company

Contact details-telephone, email address, etc

Referee 2

Name

Role, and Company

Contact details-telephone, email address, etc

EXAMPLE EDUCATION AND TRAINING RECORDS

METRO	**EDUCATION AND TRAINING RECORD**	
Form number: 2F-26 L4-CHE-FOR-071	Version: 1	Effective from: 1st February 2018

Notes for Completing Education & Training Record

1) *The Education and Training Record Sheet may be included as part of a Log Book such as the IRSE Log Book or other corporate record system*
2) *The description of the training course or subject shall be specifically referenced along with the results, qualification or competencies gained. It is important to indicate when and for how long the course was undertaken.*
3) *The course or subject details shall be verified by a supervisor for the work. This verification shall also confirm the qualification or competencies gained.*
4) *The record shall be updated for the previous year by the 31 March each year.*
5) *It is recommended that the Record is updated on a 3 monthly basis.*
6) *Candidates shall keep a scanned copy of certificates for completed training and submit with the Education & Training Record.*
7) *Identify these certificates as T1, T2, T3 etc and continue counting in sequence. Scan certificates into one file.*

Education Record

a) Include all courses and qualifications completed since leaving school.
b) This only includes courses and qualifications that are part of formal education.
c) You must include the month/year when the course started and month/year when the course was completed.
d) You must include the name of the training institution and where it is located (city, state, country).
e) You must attach a copy of the Certificate gained at the end of the course as to the qualification attained. This must be a certified copy of the original.
f) You must include a copy of the academic record showing all of the units of the course undertaken and passed. Do not include individual certificates for individual course units.

Industry Training Record

a) Include all training and courses undertaken which are for signalling equipment or your professional development.
b) You must include the month/year when the course started and month/year when the course was completed.
c) You must include the name of the training organisation (may be the signalling or equipment supplier) and where the course was undertaken.
d) You must attach a copy of the Certificate gained at the end of the course or the course units completed. This must be a certified copy of the original.

Work Based Training Record

a) Include all training skills that you have learnt ***on the job*** to attain a level 1 in a skill.
b) Provide details of the workplace assessor or supervisor who certified you with the skill and the date of certification.
c) Provide a clear description of the skill gained.
d) Provide the dates or period when the work episodes were undertaken.

Training Certificates

Scanned copies of training certificates (in colour) should be included in the file with this record.
The verification signature confirms that the original has been sighted by the verifier.
In cases where the original is not available, the verifier shall take reasonable steps to confirm that the training has been undertaken and qualification or competency gained.

A. EDUCATION RECORD

Name:	**David Fleming**		**RIW ID:**	000 123 456		**Page No.**
Dates Start/Finish	**Duration**	**Registered Training Organisation or School/College/ University**	**Description of Course and Modules** Description of Course in terms of Competencies Scan copy of Certificate to be attached and referenced	**Verification Signature and Name and ID**	**Reference** **(Certificate attached)**	**Results/Qualifications or Competencies Gained** (Assessment / Follow-up / Competence Cross Reference)
01/01/1985	4 years	Monash University	Engineering degree-electrical	PJT xxxxxxxx	T1	
21/4/2007	2 years	CQU	Engineering grad dip rail signal and systems	PJT xxxxxxxx	T2	
21/5/202	15 days	Newport Training academy	Signals and Systems-Rail. Signal systems and elements of train control systems, points, signals, power supplies, train detection, interlocking systems, naming conventions	RDS xxxxxxxx	T3	

11/11/2013	5 days	NSW training college of signalling	Design of communications systems and architecture	JJH xxxxxxxx	T4	
15/9/2016	1 Day	WA training college	Documentation systems, drafting, elements of version control and systems	SDA xxxxxxxx	T5	
12/4/2014	3 days	SA dept of training	Power supply design	WSA xxxxxxxx	T6	

B. INDUSTRY TRAINING RECORD

Name:		David Fleming	**RIW ID:**	000 123 456		**Page No.**
Dates Start/Finish	**Duration**	**Registered Training Organisation or Industry Supplier who delivered the course**	**Description of Course and Modules** Description of Course in terms of Competencies Scan copy of Certificate to be attached and referenced. Include duration of the training	**Verification Signature and Name and ID**	**Reference**	**Results/Qualifications or Competencies Gained** (Assessment / Follow-up / Competence Cross Reference)
12/6/2015	1 day	MTM	Signals Leadership Training	DCH xxxxxxxx	T7	
8/3/2009	21 days	Siemens	Westrace, Westlock CBI Signal design, architecture design, hardware, software, data design	GHJ xxxxxxxx	T8	
9/8/2011	7 Days	Frauscher	Axle counter training, design, architecture design, maintenance aspects FAdc	JHG xxxxxxxx	T9	

9/7/2017	1 day	MTM	MTM signal standards induction	PLA xxxxxxxx	T10	
			spare			

C. WORK BASED TRAINING RECORD *(to attain a level 1 in a skill)*

Name:	David Fleming	**RIW ID:**	000 123 456	**Page No.**
Dates Start/Finish	**Supervisor / Mentor Name and position title, RIW ID**	**Description of Competency Skill and level being trained** Description of specific Skill, Range and Option and where or what project it was practiced on. Include duration of the training or instruction activities.	**Verification Signature and Name & RIW ID**	**Supervisor Comments** (see below)
1/3/2014	Dave Willing	On the job organised training for designing of train detection of AC and DC track circuits for level crossing Protect. This was an arranged course, and not part of normal work experience, and my on the job work experience records does not capture this organised training. My company provided training records and attendance sheets to verify this course.	JHG xxxxxxxx	Training course was intended to impart basic knowledge and “hands on” experience to the course attendees **T11**
22/5/18	Peter Dunne	On the job organised training for designing of power supplies, earthing, lightning, surge protection, and wiring practices of clean and dirty wiring. This was an arranged course, and not part of normal work experience, and my on the job work experience records does not capture this organised training. My company provided training records and attendance sheets to verify this course.	HGY xxxxxxxx	Training course was intended to impart basic knowledge and “hands on” experience to the course attendees **T12**

Use Form E2F-22B Work Based Training Assessment for details of the assessment and the performance of the skill.
Supervisor must have the specific skill at level 2 or above to certify Work Based Training.
Supervisor Comments – The Supervisor must specifically endorse that the skill was performed satisfactorily to the requirements.

T1

MONASH UNIVERSITY ENGINEERING DEGREE-ELECTRICAL

T2

CQU

GRADUATE

DIPLOMA RAIL

SIGNALLING

T3

NEWPORT TRAINING CENTRE

SIGNALS AND RAIL SYSTEMS

T4

NSW COLLEGE OF SIGNALLING

DESIGN COMMS SYSTEMS AND ARCHITECTURE

T5

WA TRAINING COLLEGE

SYSTEMS DRAFTING ELEMENTS
VERSION CONTROL AND SYSTEMS

T6

SA DEPT OF TRAINING POWER SUPPLY DESIGN

T7

MTM

SAFETY

LEADERSHIP

T8

SIEMENS

WESTRACE CBI

DESIGN

T9

FRAUSCHER FADC AXLE COUNTER SYSTEMS

T10

MTM

SIGNAL

STANDARDS

INDUCTION

DESIGN

T11

ON THE JOB TRAINING TRAIN DETECTION

T12

ON THE JOB TRAINING POWER SUPPLIES

EXAMPLE

WORK EXPERIENCE RECORD

METRO	**SIGNALS COMPETENCY WORK EXPERIENCE RECORD**	
Form number: 2F-25 L4-CHE-FOR-070	Version: 1	Effective from: 1st February 2018

Person: **David Fleming** **RIW:** **000 123 456**

Introduction
The Work Experience Record Sheet is a critical element in the establishment of the experience of signalling staff. The person's experience is the basis of demonstrating that the person has moved from a training level to a level that permits independent performance of signalling work tasks. Without a properly endorsed Signalling Work Experience Record, alternative processes involving detailed interviews are required. A Resume or a Curriculum Vitae is not permitted as an alternative.

Supervisor Verification
The Supervisor for the Work Performed must endorse the record. The Supervisor in signing the Record Sheet is attesting to the performance of the tasks, the responsibility levels and may be held responsible for any inaccuracies in this endorsement. The Supervisor must complete details in the table below regarding his/her details.

Notes for Completing Work Experience Record

1. The Work Experience Record Sheet may be included as part of a Log Book such as the IRSE log book or other corporate work record system. The format does not need to match this template exactly, but it must include all of the items and be completed to achieve the same outcome.
2. The description of the tasks should specifically reference the relevant role of the person, the responsibility level and the competencies performed as detailed on your Statement of Competency. The level of competency exercised should also be indicated. Please see separate notes on how to correctly describe the work level and competency.
3. The task and responsibility shall be verified by a supervisor for the work or the project. Verification confirms task, role, responsibility, and competency.
4. The record shall be updated for the current year by the 31 December each year.

It is recommended that the Record is updated on a 1 month basis, no longer than 3 months and at the end of project work.

Details of Verification Supervisors
I declare that the information that I have verified on this form and the attached Signalling Work Experience Record is true and correct and fully provides all relevant details for the Assessment of the Signalling Competencies of the nominated person.

Ref	Name	Position	Organisation	RIW / MTM ID	Signature	Initials	Date
1	James Vum	Engineering Manager	MTM	000234678	xxxxxxxxxxxxxx	JV	xxxxx
2	Harley Jones	Design signal engineer	MTM	000123876	xxxxxxxxxx	HJ	xxxxxx
3	Jack Frost	Signal Designer	MTM	000249746	xxxxxxxxxxx	JF	xxxxx
4							
5							
6							
7							
8							

Name:	**David Fleming**	**Identification Competency Reference: 000123456**				
Dates From/To	**Employer/Client & Infrastructure Owner**	**Description of Task:** Description of Role(s) in terms of Competencies, levels and complexity	**Ref**	**Equipment or System Types**	**Verification Signature and Name & ID or Ref from page 1.**	**Supervisor Observations** (Assessment / Follow-up / Competence Cross Reference)
August 2011 to September 2013	GTD and MTM network Vline ARTC	**My Role was as a Signal design engineer** **Activities undertaken** by myself were; undertaking signal design at Tottenham, and within the sunshine interlocked area on the RRL project. Designing signal arrangement plans (SAP), control tables (CT), signal equipment box and equipment room layouts, signal and power cable running plans, power supply circuits, local and through circuits for signals, level crossings, points, train detection, signal mechanisms. I also designed the track circuit and cross bonding plans for the traction return systems for the 1500 v DC network. Also designed the HVI, CSEE type track circuits, M23A point machine and Siemens S700 in bearer points operating circuits. Designed LED signal and trainstop circuits. Design also included both SSI and Westlock at Sunshine with regards data design and hardware. Use of standards, principles, VRIOGS documents, equipment manuals, specifications and project requirements to undertake the design. Also provided mentoring and guidance to graduate signal engineers on the project. I attended project and design meetings. I also attended risk workshops, as both attendee and in one instance a facilitator. This work was complex and designed within a busy operational environment and complex systems for signalling and interfaces to equipment and other operators such as VLine and ARTC.	W1	Miniature relays 2200v, 110 v signal power systems HVI, CSEE track circuits Siemens M23A points, Siemens S700 points Westlock CBI SSI CBI LED signals JAE trainstops SAP plans CT plans Earthing and lighting, surge protection circuits Equipment housings Traction power return and cross bonds Impedance bonds Spark gaps	JV 000234678 xxxxxxxx	All work was undertaken and performed in a professional and competent manner. With an excellent result for all involved. All work was undertaken and performed in a professional and competent manner. With an excellent result for all involved.

Name:	**David Fleming**	**Identification Competency Reference: 000123456**				
Dates From/To	**Employer/Client & Infrastructure Owner**	**Description of Task:** Description of Role(s) in terms of Competencies, levels and complexity	**Ref**	**Equipment or System Types**	**Verification Signature and Name & ID or Ref from page 1.**	**Supervisor Observations** (Assessment / Follow-up / Competence Cross Reference)
June 2013 to May 2015	Alktom and within MTM network	**My Role was as a Signal design engineer** **Activities undertaken** by myself were; the data design for Smartlock CBI at the Southern Cross station. I undertook the data design, and hardware design. Along with this I also designed inputs to the Metrol train control system, and the communications links and systems As part of this, I used the VRIOG standards, MTM principles, MTM DPN and other engineering manuals, plus the project specifications as input to design, and used the training manuals and product guidance notes for the CBI. I also designed the power supply system including all earthing, lightning, and surge protection, use of clean and dirty wiring for the CBI systems. During the project, I also undertook some type approvals of products as object controllers, with risk assessments. This was a complex area, with difficult works in and around the various signal control centres and other operators	W2	Smartlock CBI Object controllers Power supply systems for signalling Risk assessments Type approvals Train control Communications systems Cabling systems	HJ 000123876 xxxxxxxx	Work was performed well, and suggest a review of this in the next 3 months
June 2015 to April 2016	UPL and within MTM network	**My Role was as a Signal design engineer** **Activities undertaken** by myself were the local circuits and through circuit design along with traction bonding and cross bonding plans for Westall signalling, with inputs to both relay interlocking and Smartlock CBI. Part of this also included type approval of new power supplies and risk assessments and use of project, VRIOGS, and MTM standards, principles and specifications	W3	Smartlock CBI, miniature and large relays, power supplies, cables, LED signals MK3, M23A points, CSEE and HVI track circuits, traction and bonding systems, type approvals, risk assessments		All work was undertaken and performed in a professional and competent manner. With an excellent result for all involved.

Name: **David Fleming** **Identification Competency Reference: 000123456**

Dates From/To	**Employer/Client & Infrastructure Owner**	**Description of Task:** Description of Role(s) in terms of Competencies, levels and complexity	**Ref**	**Equipment or System Types**	**Verification Signature and Name & ID or Ref from page 1.**	**Supervisor Observations** (Assessment / Follow-up / Competence Cross Reference)
May 2016 to December 2017	KTP and MTM network	**My Role was as a Signal design engineer** **Activities undertaken** by myself for this level crossing removal project on the Epping line between Bell and Keon Park were, design of all through and local circuits, design and alterations to the SSI CBI and train control systems,. This also involved the level crossing and pedestrian crossing alterations for the altered operation and operational times. Along with the JZA and communications links to Metrol, power supply circuits, modifications to equipment rooms with geographical relay interlockings, point machines, use of axle counters for traction detection, along with CSEE and HVI track circuit interfaces. In addition, traction return and cross bonding plans. I provided mentorship to a number of signalling graduates through this project. As part of the project, I also completed all as built plans and placed documents back into the DMS system. I also undertook the updates to both MTM asset management's systems and PASS assets. This work was undertaken in both simple and complex areas of the network, with automatic signalling in some sections, and controlled signals related to interlocked areas.	W3 W4	SSI CBI, Frauscher axle counters FAdc, CSEE and HVI track circuits Power supplies for signalling Train control systems JZA DMS system PASS assets Miniature relays Geographical relay interlocking Relay room and equipment buildings Communications systems Point machines M23A Cross bonding and traction return systems LED signals JAH trainstops Level crossings and crossing equipment Pedestrian gates and crossing equipment	JF 000249746 xxxxxxxx	Works were undertaken well and suggest we review training and competencies required to undertake further works and upgrading of the SoC All work was undertaken and performed in a professional and competent manner. With an excellent result for all involved.
	MTM, IRSE	Attend local IRSE Melbourne technical event, and hear presentations on signal arrangements with inputs and outputs, along with a presentation on power supplies, earthing, redundancy	W5	Networking with Industry, professional development, and capture of knowledge of power systems, and signal arrangement plans.		

Name:	**David Fleming**	**Identification Competency Reference: 000123456**				
Dates From/To	**Employer/Client & Infrastructure Owner**	**Description of Task:** Description of Role(s) in terms of Competencies, levels and complexity	**Ref**	**Equipment or System Types**	**Verification Signature and Name & ID or Ref from page 1.**	**Supervisor Observations** (Assessment / Follow-up / Competence Cross Reference)
January 2018 to March 2018	PJY and within the MTM network	**My Role was as a Signal design engineer** **Activities undertaken** by myself for the pedestrian crossings upgrade project between Sandringham to South Yarra were; the design of the power supply systems for the pedestrian gates with backup power and commercial 50hz supplies, as the Sandringham line is 25hz only, also the local circuits for the pedestrian gates and their operation, all through circuits for the control of the pedestrian gates, changes to the civil and track plans for the pedestrian pathways and fencing, and the use of axle counters for the overlay of train detection for the pedestrian gate operations. I used the project requirements, civil and track standards, and level and pedestrian AS standards, MTM standards and principles, updated the plans as taken from and then updated and returned to DMS, along with updating Pass assets and MTM asset management systems. I was also part of many project engineering and design meetings, risk assessments, and client plus stake holder meetings. This also involved changes to the SAP a CT plans, traction bonding and cross bonding plans. Alterations to control sections and holding sections to many existing level crossings. A number of traffic lights has the coordination inputs and circuits altered as part of the project. This was quite complex in design and involved many people from various areas, including local councils, VicRoads, MTM and others.	W6	SAP plans Control tables Pedestrian gates Level crossing equipment Civil and track components Traffic light coordination Miniature relays Frauscher FAdc axle counters Cables Equipment boxes cable running Traction return systems Risk assessments	JF 000249746 xxxxxxxx	Work was completed satisfactorily and in a professional manner. Would like meeting in one month to review future works and of a higher degree of input and involve checking and ways forward to level 3 on the SoC. All work was undertaken and performed in a professional and competent manner. With an excellent result for all involved.

Name:	**David Fleming**	**Identification Competency Reference: 000123456**				
Dates From/To	**Employer/Client & Infrastructure Owner**	**Description of Task:** Description of Role(s) in terms of Competencies, levels and complexity	**Ref**	**Equipment or System Types**	**Verification Signature and Name & ID or Ref from page 1.**	**Supervisor Observations** (Assessment / Follow-up / Competence Cross Reference)
April 2018 to October 2018	MTM and KTP	**My Role was as a Signal design engineer** **Activities undertaken** by myself for the MTP in the section Richmond to Armadale in Melbourne with regards to the following activities; • Correlation activities of DMS plans with existing field equipment, wiring, equipment boxes and location items-relays, boxes, signals, trainstops, track circuits, power supplies • Verification that cable running plans in the field are accurate to the plans held in DMS • Verification that signal power supplies in the field are compliant to MTM standards • Drafting of signal sighting forms for the new proposed signalling designs, and aligning to MTM requirements and standards • Ensuring signal sighting forms and signal positions relate to MTM standards and curves and gradients on the SAP, and alter to suit any identified differences from field inspections • Design of traction return systems, impedance and cross bonding plans, and capture of use of Frauscher axle counters for train detection, and 2000R impedance bonds for traction return to a new railway substation. • Level crossing and pedestrian crossing verification of current installations and any non compliance to MTM standards Also mentoring of younger signal engineers, and graduate signal engineers in the above activities, and "on the job training" as part of the exercise undertaken in the field environment	W7 W8	Traction return systems for 1500v dc Frauscher FAdc axle counters Signal sighting forms Signals Trainstops Points Track circuits AC, CSEE, HVI, FS2500 SAP plans Correlation of existing systems Cable running plans and cable systems Equipment boxes Existing field plan correlation Level crossings Pedestrian crossings	HJ 000123876 xxxxxxxx	All work was undertaken and performed in a professional and competent manner. With an excellent result for all involved. All work was undertaken and performed in a professional and competent manner. With an excellent result for all involved. Recommended levels of 2 for all

EXAMPLE CHECKLIST

CHECK LIST FOR THE ROLE

The *Applicant is required to complete this* **form prior to submitting to the Assessor**.

The applicant is to read the following instructions to ensure that this form is correctly filled out. The information provided in this form is to demonstrate the skill competency level sought by the applicant.

NOTE - If no evidence is available then the respective Competency item cannot be certified.

The evidence required may include both training recorded in your Education & Training Record as well as activities recorded in your Work Experience Record.

Step 1 The Applicant is to complete this form on a computer to be able to choose all of the available options. Options are highlighted in grey with drop down menu or options to insert words.

Step 2 The applicant nominates the proposed 'Skill' level for each item,

Step 3 The applicant completes each item by adding references to Training and Work Experience. Please review the examples to ensure that the Assessor easily understands the references.

Step 4 The applicant ensures that they have provided the appropriate number and type of Work Experience references for the nominated 'skill' level. See reference below.

Training Records This includes from educational institutions, Registered Training Organisations, past training records of Rail Infrastructure Operators and assessments by other organisations. It shall also include training in specific equipment by industry suppliers, which shall demonstrate that competency has been gained, and not just attendance at course. In some cases, specific equipment training is mandatory.

The Work Experience Record / Log Book is a record of professional work undertaken, including the level of responsibility and type of work task. This should indicate the level of complexity of the task. This must be endorsed by the engineering or project supervisor for the respective work. The Work Experience should reference work done in terms of competencies on the competency certificate.

The applicant shall provide Work Experience Record activities as detailed below for each 'skill'.

Level 0
This level depicts that there is no certified knowledge

Level 1
To attain a Level 1 competence the applicant must demonstrate successfully completed training in the activity, proved by a Certificate of Attainment. Alternatively, the applicant may have verified work experience showing Work Based Training covering the skill. Typically, 3 *Work Based Training* work experience episodes under mentorship are required for level 1.

Level 2
To attain a Level 2 competence in addition to the requirements for Level 1, an individual must be able to demonstrate by means of verified work experience that they have carried out the activity a **minimum of four** times, independently, in a simple or routine task.

Where a competence is a broadening of a similar well experienced activity, then it is acceptable to gain a level 2 by providing evidence of carrying out the activity a **minimum of two** times, independently, in a simple or routine task.

An example would be where an individual has 4 verified experiences in DC track circuits and has 2 verified experiences on HVI track circuits. The individual would be able to gain a Level 2 in both activities due to the similarity in technologies.

Level 3
Level 3 can only be gained through verified experience gained including experience within the AROs in addition to the requirements for Level 2. To attain a Level 3 competence an individual must be able to demonstrate by means of verified work experience that they have carried out the activity a **minimum of five** times, independently, in a complex task.

Where a competence is a broadening of a similar well experienced activity, then it is acceptable to gain a level 3 by providing evidence of carrying out the activity a **minimum of three** times, independently, in a complex task.

An example would be where an individual has 5 verified experiences in DC track circuits and has three verified experiences on HVI track circuits. The individual would be able to gain a Level 3 in both activities due to the similarity in technologies.

Greater than half of these work experience activities shall be performed on the Metro network in accordance with Metro Signalling Standards clearly demonstrate the high level of understanding of Metro standards, practices and domain knowledge

Assessor: xxxxxxxx **Date:** xxxxxxxx

SME: xxxxxxxx **Date:** xxxxxxxx

COMPETENCY ASSESSMENT CHECKLIST

RIW ID #	**000123456**

For: ***David Fleming***

The relevant information has been used in the assessment of the nominee for:

Signal Design Engineer **Select the correct ROLE**

Assessment Checklist- Assessor to check and "tick" all items

Assessor	Checklist Item
	Information provided by candidate
	Signed Request for Assessment included
	Training Records provided for National Certified Competencies
	Training Records provided for Industry or Equipment Training
	Work Experience Record (WER) provided
	MTM Signalling Standards Induction passed
	Track Safety Awareness certificate
	OHS Induction certificate
	Site Induction
	Health Assessment for Rail Safety Workers
	All of the above information loaded into Rail Industry worker (Rail Safety Worker) database.
	Assessment Checklist and Draft Statement of Competency
	Applicant has completed a Draft Statement of Competency
	Applicant has provided Training references for all skills
	Applicant has provided Work Experience References for all skills
	Assessor confirms
	Drug & Alcohol Policy compliance checked on Request for Assessment
	All the above information collated and recorded
	Scanned copy of information loaded into Rail Industry worker (Rail Safety Worker) database.
	Assessor Certification provided of this Checklist and SoC
	Assessor is ARO approved for this 'signalling role' or is working with an approved Subject Matter Expert (SME)
	All information has been assessed and recorded assessments for all competencies
	All issues have been assessed
	Assessor has arranged upload of the Assessment Checklist to Rail Industry Worker site
	Draft Certificate of Competency
	Certificate and Agreement signed by applicant
	Certificate signed by Assessor

NOTE

Assessor to initial each page in this area as being true and correct as assessed and to ensure no missed pages xxxxxxxx

Technical Documents and Investigation

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed RSW and final comments by assessor	Assessed Level
Signal Standards				A level 2 is required in this area for those wishing to undertake SAP and CT designs	
Type Approvals	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed level level
Technical Specifications					
Risk Assessments					
Functional Specifications & Manuals					
Conduct Technical Investigations					
Conduct Safety Investigations					
MTM - Signal Design Induction	2	T11		When the signal induction has been satisfactorily completed, a practitioner level can be acquired. This must be the MTM version and not any previous VRIOGS versions	2
MTM/VRIOGS - Signal Symbol Library				Knowledge of DMS, cell library, symbols, sample and standard plans is required	
MTM - Signalling Principles				A level 2 is required in this area for those wishing to undertake SAP and CT designs	
List any other skills in further technology and capture here and then take to the SoC					

Design Process

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Documentation Drawing Controls	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed level
CAD Process and Drawing Proficiency					
Circuit Correlation					
List any other skills in further technology and capture here and then take to the SoC					

Design Signalling Drawings

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Signal Arrangement Plans (SAP)				A level 2 in MTM signal standards and MTM signals principles is required as a pre-requisite to this skill. Also MTM "domain" knowledge	
Aspect Sequence Charts	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed leve
Bonding & Signal Apparatus Plans				Require MTM "domain" knowledge of the skill	
Impedance & Cross Bonding Plans				Require MTM "domain" knowledge of the skill	
Control Tables (CT)				A level 2 in MTM signal standards and MTM signals principles is required as a pre-requisite to this skill. Also MTM "domain" knowledge	
Cable Running Plans	**2**	**T1,2,3,4,5,10**	**W1,2,3,4**	**Have training, 5 WER, all in MTM and complex areas**	**3**
Contact Analysis Sheets	**3**	**T1,2,3,4,5,10**	**W1,2,3,4**	**Have training, 5 WER, all in MTM and complex areas**	**3**
Equipment Box Layouts	**3**	**T1,2,3,4,5,10**	**W1,2,3,4**	**Have training, 5 WER, all in MTM and complex areas**	**3**
Control & Indication Diagram (ie Panel Drawings)	**1**	**T1,2,3**	**none**	**Have training only, no WER**	**1**
Mechanical Drawings (ie Signal / Point Layouts)	**1**	**T1,2,3,4,5,10**	**none**	**Have training only, no WER**	**1**
Equipment and Generator Room Layouts	**1**	**T1,2,3,4,5,10**	**W1,2**	**Have training, and 2 WER, in MTM areas. Need 4 WER to gain a level 2**	**1**
Signalling Diagram	**1**	**T1,2,3,4,5,10**	**none**	**Have training only, no WER**	**1**
Signal Sighting Forms	**1**	**T1,2,3,4,5,10**	**none**	**Have training only, no WER**	**1**
Level Crossing Focusing Diagram / Layout				A knowledge of MTM standards and also AS standards for the design of level crossings is a pre-requisite for this skill	
Train Control System Block Diagram	**1**	**T1,2,3,4,5,10**	**none**	**Have training only, no WER**	**1**
Locking Diagrams & Tables	**1**	**T1,2,3,4,5,10**	**none**	**Have training only, no WER**	**1**

List any other skills in further technology and capture here and then take to the SoC					

Checking, Verification & Review Signalling Drawings (pre-requisite is a level 2 in design)

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Signal Arrangement Plans (SAP)				For ALL checking skills there must be a minimum competency level 2 held for the design of the skill as a pre-requisite before any competency can be gained in this and other skill	
Aspect Sequence Charts	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed leve
Bonding & Signal Apparatus Plans					
Impedance & Cross Bonding Plans					
Control Tables (CT)					
Cable Running Plans					
Contact Analysis Sheets					
Equipment Box Layouts					
Control & Indication Diagram (ie Panel Drawings)					
Mechanical Drawings (ie Signal / Point Layouts)					
Equipment and Generator Room Layouts					
Signalling Diagram					
Signal Sighting Forms					
Level Crossing Focusing Diagram / Layout					
Train Control System Block Diagram					
Locking Diagrams & Tables					
List any other skills in further technology and capture here and then take to the SoC					

Design Equipment Classes

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Signal Power Distribution Supply System 3,300V, 2,200V HV	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed leve
Signal Power Distribution Supply System 1,000V, 650V					
Signal Power Distribution Supply System 440V, 240V					
Signal Power Distribution Supply System 110V,50V					
Controlled Signals					
Automatic Signals					
Train Protection – TPWS				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
Train Protection – Train stop					
Level Crossing Road Protection					
Level Crossing Pedestrian Crossing					
Traffic Light Coordination Arrangements					
Track Circuits – Audio Frequency (Jointless) CSEE					
Track Circuits – AC					
Track Circuits – DC					
Track Circuits – HVI					
Track Circuits – Non-vital IPI, PSO					
Points – Off Rail (M23A / LZW / GRS)					

Points – On Rail (Clamp Lock)					
Points – On Rail (Claw Lock)	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed leve
Axle Counters-Frauscher-model				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
Axle Counters-Siemens-model				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
Axle Counters-Thales-model				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
Telemetry and Interface Processors					
Siding Gates and Controls					
Mechanical Signalling Equipment					
Mechanical Interlocking Frames					
List any other skills in further technology and capture here and then take to the SoC					

Checking Equipment Classes (pre-requisite is a level 2 in design)

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Signal Power Distribution Supply System 3,300V, 2,200V HV					
Signal Power Distribution Supply System 1,000V, 650V				For ALL checking skills there must be a minimum competency level 2 held for the design of the skill as a pre-requisite before any competency can be gained in this and other skill	
Signal Power Distribution Supply System 440V, 240V	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed leve
Signal Power Distribution Supply System 110V,50V					
Controlled Signals					
Automatic Signals					
Train Protection – TPWS					
Train Protection – Train stop					
Level Crossing Road Protection					
Level Crossing Pedestrian Crossing					
Traffic Light Coordination Arrangements					
Track Circuits – Audio Frequency (Jointless) CSEE					
Track Circuits – AC					
Track Circuits – DC					
Track Circuits – HVI					
Track Circuits – Non-vital IPI, PSO					
Points – Off Rail (M23A / LZW / GRS)					

Points – On Rail (Clamp Lock)					
Points – On Rail (Claw Lock)					
Axle Counters-Frauscher-model	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed
Axle Counters-Siemens-model					
Axle Counters-Thales-model					
Telemetry and Interface Processors					
Siding Gates and Controls					
Mechanical Signalling Equipment					
Mechanical Interlocking Frames					
List any other skills in further technology and capture here and then take to the SoC					

Design Interlocking Systems

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Relays (Unit Lever / Freewired)	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed level
Geographical Relays					
SSI				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
SmartLock				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
WestLock				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
VHLC				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
WestRace Mk1				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
WestRace Mk2				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
EBILock 950				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
List any other skills in further technology and capture here and then take to the SoC					

Checking Interlocking Systems (pre-requisite is a level 2 in design)

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Relays (Unit Lever / Freewired)				For ALL checking skills there must be a minimum competency level 2 held for the design of the skill as a pre-requisite before any competency can be gained in this and other skill	
Geographical Relays	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed level
SSI					
SmartLock					
WestLock					
VHLC					
WestRace Mk1					
WestRace Mk2					
EBILock 950					
List any other skills in further technology and capture here and then take to the SoC					

Design Data

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
SSI				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
SmartLock				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
WestLock				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
VHLC				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
WestRace Mk1				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
WestRace Mk2				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
HXP Data				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
GCP Data				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
Telemetry and Interface Processors					
EBILock 950				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed level

List any other skills in further technology and capture here and then take to the SoC					

CBTC Design system

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Cityflo 650#				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed level
List any other skills in further technology and capture here and then take to the SoC					

#See attached sheets for Cityflo 650 specific competency

CBTC Design Data

EVIDENCE	Level	Training	Work Experience	Initial Comments by Assessed	
Cityflo 650#				For this skill it is mandatory that a product supplier/manufacturer training course be undertaken before any competency level is obtained	
	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed level
List any other skills in further technology and capture here and then take to the SoC					

#See attached sheets for Cityflo 650 specific competency

Checking Data (pre-requisite is a level 2 in design)

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
SSI				For ALL checking skills there must be a minimum competency level 2 held for the design of the skill as a pre-requisite before any competency can be gained in this and other skill	
SmartLock	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed leve
WestLock					
VHLC					
WestRace Mk1					
WestRace Mk2					
HXP Data					
GCP Data					
Telemetry and Interface Processors					
EBILock 950					
List any other skills in further technology and capture here and then take to the SoC					

Checking CBTC System (pre-requisite is a level 2 in design)

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Cityflo 650#				For ALL checking skills there must be a minimum competency level 2 held for the design of the skill as a pre-requisite before any competency can be gained in this and other skill	
	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed level
List any other skills in further technology and capture here and then take to the SoC					

#See attached sheets for Cityflow 650 specific competency

Checking CBTC Data (pre-requisite is a level 2 in design)

EVIDENCE	Self-assessed Level	Training	Work Experience	Initial Comments by Assessed and final comments by assessor	
Cityflo 650#				For ALL checking skills there must be a minimum competency level 2 held for the design of the skill as a pre-requisite before any competency can be gained in this and other skill	
	RSW Self-assessed level	Training reference must be placed here for all skills	WER references must be placed in this area for all skills	In all these areas on the entire form the RSW must add comments here on training,WER numbers done, and if simple or complex and which ARO area worked upon	Agreed and assessed leve
List any other skills in further technology and capture here and then take to the SoC					

#See attached sheets for Cityflo650 specific competency

Issues arising from Assessment (Assessor to record notes here):

Subject Matter Expert –(SME to record notes here)

ASSESSMENT REVIEW CONDUCTED BY:			
Subject Matter Expert's Name:	SME name here xxxxxxxxxxxxxxxxxxxx		
Subject Matter Expert's Position:	SME position xxxxxxxxxxxxxxxx		
Subject Matter Expert's Signature:	SME signature xxxxxxxxxxxxxx	Date:	Date xxxxxxxxxxxxxxxxx
Authorised Assessor's Name:	Assessor Name xxxxxxxxxxxxxxxxx		
Authorised Assessor's Position:	Assessor Position xxxxxxxxxxxxxxxxxxx		
Authorised Assessor's Signature:	Assessor signature xxxxxxxxxxxxxxxxx	Date:	Date xxxxxxxxxxxxxxx

EXAMPLE DRAFT SOC

METRO	**DRAFT STATEMENT OF COMPETENCY - SIGNAL DESIGN ENGINEER**	Metro Academy
L4-LED-FOR-055	Version: 2	Effective From: 1st February 2018

Statement of Competency

This is to verify that **RIW PERSONS NAME**

Has been assessed and certified in the following competencies required of an **Signal Design Engineer**

Technical Documentation & Investigations	
Signal Standards	2
Type Approvals	2
Technical Specifications	2
Risk Assessments	2
Functional Specifications & Manuals	2
Conduct Technical Investigations	2
Conduct Safety Investigations	2
MTM - Signal Design Induction	2
MTM/VRIOGS - Signal Symbol Library	2
MTM/VRIOGS - Signalling Principles	2
Design Process	
Documentation Drawing Controls	1
CAD Process and Drawing Proficiency	1
Circuit Correlation	1

Design, Checking, Verification & Review

Signalling Drawings	**D**	**C**
Signal Arrangement Plans	3	2
Bonding & Signal Apparatus Plans	2	0
Impedance & Cross Bonding Plans	2	0
Control Tables	2	1
Cable Running Plans	2	0
Contact Analysis Sheets	2	0
Equipment Box Layouts	2	0
Control & Indication Diagram (ie Panel Drawings)	2	0
Mechanical Drawings (ie Signal / Point Layouts)	2	0
Equipment and Generator Room Layouts	2	0
Signalling Diagram	2	0
Signal Sighting Forms	2	0
Level Crossing Focusing Diagram / Layout	2	0
Train Control System Block Diagram	2	1
Locking Diagrams & Tables	2	1

Equipment Classes	**D**	**C**
Signal Power Distribution Supply System	3	2
Controlled & Automatic Signals	2	1
Train Protection – TPWS	2	1
Train Protection – Train stop	2	1
Level Crossing Road Protection	2	1
Level Crossing Pedestrian Crossing	2	1
Traffic Light Coordination Arrangements	2	1
Track Circuits – Audio Frequency (Jointless)	2	1
Track Circuits – AC	2	1
Track Circuits – DC, HVI	2	1
Track Circuits – Non-vital IPI, PSO	2	1
Points – Off Rail (M23A / LZW / GRS)	2	1
Points – On Rail (Clamp / Claw Lock)	2	1
Axle Counters Thales/Frauscher/Siemens	2	1
Telemetry and Interface Processors	2	1
Siding Gates and Controls	2	1
Mechanical Signalling Equipment	0	0
Mechanical Interlocking Frames	0	0

Interlocking Systems	**D**	**C**
Relays (Unit Lever / Freewired)	3	2
Geographical Relays	2	2
SSI	0	0
SmartLock	3	2
WestLock	1	0
VHLC	0	0
WestRace	2	1
EBILock 950	1	0

Data	**D**	**C**
SSI	0	0
SmartLock	3	2
WestLock	0	0
VHLC	0	0
WestRace	2	1
HXP / GCP Data	0	0
Telemetry and Interface	0	0
EBILock 950	0	0

CBTC System	**D**	**C**
Cityflo 650#	0	0

CBTC Data	**D**	**C**
Cityflo 650#	0	0

See attached sheets for Cityflo 650 specific competency

ASSESSOR CERTIFICATION.

The Assessor hereby Certifies that details on this Certificate of Competency have been assessed in accordance with the MTM & VRIOGS Standards, Procedures and Instructions for Assessment; that the applicant has demonstrated that he/she is able to perform the tasks covered by the Competency; and that the supporting documentation has been received and recorded. MTM relies on this certification as demonstrating competency

This certificate is only valid while working for the nominated Organisation and contracted to or employed by MTM or Alliance Partner. Conditions apply for transferring the Competency to work with a different organisation

Proficiency Level

LEVEL 0 – No certified knowledge on the subject
LEVEL 1 – Supervised Practitioner
LEVEL 2 – Practitioner
LEVEL 3 – Expert

This Certificate is issued under the Rail Safety Legislation requirements of Victoria.

Assessed by:

Assessor's Signature: _____

Assessor's Name: _____

Date: _____

Engaged SME

SME's Signature: _____

SME's Name: _____

Date: _____

Applicant's Acceptance:

Applicant's Signature: XXXXXXXXXXXX

Applicant's Name: XXXXXXXXXXXXXXX

Date: XXXXXXXXXXXX

EXAMPLE FINAL SOC

METRO	STATEMENT OF COMPETENCY - SIGNAL DESIGN ENGINEER	Metro Academy
L4-LED-FOR-055	Version: 2	Effective From: 1st February 2018

Statement of Competency

This is to verify that **RIW persons name**

Has been assessed and certified in the following competencies required of an **Signal Design Engineer**

Technical Documentation & Investigations	
Signal Standards	3
Type Approvals	2
Technical Specifications	3
Risk Assessments	2
Functional Specifications & Manuals	3
Conduct Technical Investigations	2
Conduct Safety Investigations	2
MTM - Signal Design Induction	2
MTM/VRIOGS - Signal Symbol Library	2
MTM/VRIOGS - Signalling Principles	3
Design Process	
Documentation Drawing Controls	1
CAD Process and Drawing Proficiency	1
Circuit Correlation	1

Design, Checking, Verification & Review

Signalling Drawings	**D**	**C**
Signal Arrangement Plans	3	2
Bonding & Signal Apparatus Plans	2	0
Impedance & Cross Bonding Plans	2	0
Control Tables	2	1
Cable Running Plans	2	0
Contact Analysis Sheets	2	0
Equipment Box Layouts	2	0
Control & Indication Diagram (ie Panel Drawings)	2	0
Mechanical Drawings (ie Signal / Point Layouts)	2	0
Equipment and Generator Room Layouts	2	0
Signalling Diagram	2	0
Signal Sighting Forms	2	0
Level Crossing Focusing Diagram / Layout	2	0
Train Control System Block Diagram	2	1
Locking Diagrams & Tables	2	1

Equipment Classes	**D**	**C**
Signal Power Distribution Supply System	3	2
Controlled & Automatic Signals	2	1
Train Protection – TPWS	2	1
Train Protection – Train stop	2	1
Level Crossing Road Protection	2	1
Level Crossing Pedestrian Crossing	2	1
Traffic Light Coordination Arrangements	2	1
Track Circuits – Audio Frequency (Jointless)	2	1
Track Circuits – AC	2	1
Track Circuits – DC, HVI	2	1
Track Circuits – Non-vital IPI, PSO	2	1
Points – Off Rail (M23A / LZW / GRS)	2	1
Points – On Rail (Clamp / Claw Lock)	2	1
Axle Counters Thales/Frauscher/Siemens	2	1
Telemetry and Interface Processors	2	1
Siding Gates and Controls	2	1
Mechanical Signalling Equipment	0	0
Mechanical Interlocking Frames	0	0

Interlocking Systems	**D**	**C**
Relays (Unit Lever / Freewired)	3	2
Geographical Relays	2	2
SSI	0	0
SmartLock	3	2
WestLock	1	0
VHLC	0	0
WestRace	2	1
EBILock 950	1	0

Data	**D**	**C**
SSI	0	0
SmartLock	3	2
WestLock	0	0
VHLC	0	0
WestRace	2	1
HXP / GCP Data	0	0
Telemetry and Interface	0	0
EBILock 950	0	0

CBTC System	**D**	**C**
Cityflo 650#	0	0

CBTC Data	**D**	**C**
Cityflo 650#	0	0

See attached sheets for Cityflo 650 specific competency

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Assessed by:

Assessor's Signature: xxxxxxxxxxxxxxxxx

Assessor's Name: xxxxxxxxxxxxxxxxx

Date: xxxxxxxxxxxxxxxxx

Engaged SME

SME's Signature: xxxxxxxxxxxxxxxxx

SME's Name: xxxxxxxxxxxxxxxxx

Date: xxxxxxxxxxxxxxxxx

Applicant's Acceptance:

Applicant's Signature: xxxxxxxxxxx

Applicant's Name: xxxxxxxxxxxxxxx

Date: xxxxxxxxxxx

Note-where it is an upgrade of a SOC, and competencies, the original date of assessment and the original expiry date remain the same on the assessment and in Onsite