Rail Signalling Assessment Explained

HRD Integrated Services

To meet the assessment obligations from the *UEE41220 Certificate IV in Electrical–Rail Signalling* and individual rail signalling competencies, HRD follows an assessment process that confirms that candidates are safe and meet the minimum standard to be deemed competent.

1. The assessment process

Assessment for all rail signalling technical units is typically a three stage process consisting of a class and workplace–based assignment, an in–class theory test and workplace practical assessment (WPA).

The **assignment** is completed with the support of your trainer and using workplace resources. The assignment is essential revision for the **written theory test** and is submitted prior to you sitting the test. The theory test is integral to you demonstrating that you can meet the minimum knowledge requirements for each training module.

Workplace practical assessment is a demonstration of the application of knowledge and skills learned throughout training and while practising in the workplace. WPA us the final determinant of competence.

With the exception of RPL candidates, you cannot proceed to WPA until you have successfully completed all other assessment requirements.

2. Workplace practical assessment

a) WPA requires that candidates demonstrate competence in their workplace, typically on more than one occasion. While assessment may involve simulated activities to minimise disruption to the live rail network, assessments commonly occur in a live environment.

Each unit of competency has practical skills and knowledge assessment requirements specific to that unit.

b) Expect that you will need to demonstrate competence at least twice. Depending on your workplace, you may be asked to undertake assessment in particular units of competency on multiple occasions if your employer requires that you are competent on all the equipment models covered by that unit.

The Assessment schedule (on page 3) shows the assessment modes and the number of WPAs you can typically expect for each unit of competency/training module.

c) Workplace assessment asks that you show that you can apply all safety measures, care of technology, plant and equipment, use of standards, manuals and procedures, and care of the environment, directly related to the work function.

d) WPA has a safety critical risk component. A person is a safety critical risk if *their words, acts or omissions lead to a reasonable inference that they represent a risk to safe rail operations*. A person determined to be a safety critical risk will be deemed not yet competent and further training may be recommended.

3. Preparing for assessment

You will be given the opportunity to view the first two pages of the assessment document (the WPA checklist) prior to the assessment. This part of the WPA checklist specifies the conditions and other assessment requirements, and you will be able to discuss the assessment details with your assessor.

You will not see the WPA checklist in its entirety. The requirements of the assessment activity should be apparent to you after reading the unit of competency and relating this back to your workplace task performance and your organisation's workplace procedures and/or maintenance instructions.

Throughout your training, your employer is bound to provide you with a range of experiences and mentoring that adequately prepares you for WPA. But you also need to be responsible for your own learning: be proactive in seeking skill–building experiences and don't wait until WPA looms to ask for help.

Assessments are typically scheduled at the end of training and once you have completed sufficient workplace practice (generally three months) to build, consolidate and reinforce your knowledge and skills.

These dates will be negotiated between you, your supervisor and HRD.

Rail Signalling Control and Wiring Systems Concepts Assessment

Learners entering the rail construction stream and existing rail construction workers seeking RPL generally enrol in HRD's *Rail Signalling Control and Wiring Systems Concepts (Install and wire rail signal equipment)* course.

Participants commonly complete the following units only:

- *UEERS0001 Assemble and wire internal electrical signalling equipment*
- *UEERS0011 Install and maintain rail track circuit leads and bonds*
- *UEERS0019 Test copper rail signalling cables*
- *UEERS0017 Repair rail signalling power and control cables*

The assessment process for these units is representative of assessment across the *Certificate IV in Electrical–Rail Signalling*.

Once again, demonstration of skill and application of knowledge is critical. WPA occurs at the end of training and, excepting RPL (which requires a minimum of one WPA plus other evidence), is preceded by assignment and written theory test.

Assessment generally occurs in a controlled or simulated environment.

Refer to the Assessment schedule (on page 3) for indicative requirements.

Assessment schedule

Learners enrolled in the *UEE41220 Certificate IV in Electrical – Rail Signalling* undertake the following assessments. Equipment type assessed will vary according to ARO, contractor or jurisdictional requirements. RPL/RCC conditions may vary.

Unit code	Title	HRD Module	Assign-ment	Theory test	WPA	Equipment[1] Typically two different equipment items will be selected for each WPA unless otherwise stated.				
UEEcd0027	Participate in development and follow a personal competency development plan	CD0027				Checklist				
UEECD0024	Implement and monitor energy sector WHS policies and procedures	CD0024	See note: *Core unit assessments*[2]			Checklist				
UEERE0015	Implement and monitor energy sector environmental and sustainable policies and procedures	RE0015				Assignment				
UEERS0001	Assemble and wire internal electrical signalling equipment	C3.1	✓	✓	2	10 cores to RSA	10 cores to SAK			
UEERS0011	Install and maintain rail track circuit leads and bonds	C3.2	✓	✓	2	Track feed cable to rail	Cross bond or impedence bond to rail	Cross spark gap cable to rail	Other	
UEERS0019	Test copper rail signalling cables	C3.3	✓	✓	2	Track feed/ relay cable - location box to rail connection point	Multi-core > 4 cores between 2 location boxes	Multi-core > 4 cores between 1 location box and end equipment item	Other	

(WPA total: = 8)

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[1] **Equipment types**
The equipment types listed here are indicative and may vary according to factors such as jurisdiction, Operator or depot.

[2] **Core unit assessments**
There are three units of competency that are core to the UEE41220 Certificate IV for which a specific workplace practical assessment is not required.

i. Assessment for CD0027 is covered by your course induction and post-training review.

ii. Implementation and monitoring of WHS policy and procedure (CD0024) is embedded in all WPAs.

iii. An assignment is to be completed for RE0015 to cover–off unit requirements not met specifically through WPA.

Rail Signalling Assessment Explained

Unit code	Title	HRD Module	Assign-ment	Theory test	WPA	Equipment[1] Typically two different equipment items will be selected for each WPA unless otherwise stated.				
UEERS0017	Repair rail signalling power and control cables		✓	✓	2	4mm² or 16mm2	Heat shrink or epoxy	10 multicore or 20 multicorer	Heat shrink or epoxy	Other
UEERS0010	Install and maintain rail signalling power supplies	RS0010	✓	✓	2	Battery	UPS	Hydraulic	Diesel alternator	
UEERS0005	Install and maintain active level crossing equipment	RS0005	✓	✓	2[3]	WRRS	S20/S40 OR S60	Hydraulic or WCH	Ped gate	Xing predictor
UEERS0009	Install and maintain power operated point-actuating devices	RS0009	✓	✓	2[4]	Off-rail	M23A or Other	On-rail	Clamplock or Clawlock	Other
UEERS0013	Install and maintain train detection equipment	RS0013-1 RS0013-2	✓	✓	2	AC or DC	GCP	UM71	Westrack	Overlay or HVI
UEERS0012	Install and maintain trackside signal and train protection equipment	RS0012	✓	✓	2	Signal	Train Prot			
UEERS0014	Install and maintain vital relay interlocking systems	RS0014	✓	✓	2	Loc 1	Loc 2			
UEERS0004	Find and repair rail signalling system faults	All	✓	✓	3	Track cct	Point mach	Level xing	Relay	CBI
UEERS0008	Install and maintain non-vital telemetry systems	RS0008	✓	✓	2	JZA	Kingfisher	Other		
UEERS0006	Install and maintain computer based interlocking rail systems	RS0006	✓	✓	2	SSI	Westrace	Other		
UEECS0003A	Assemble, set up and test computing devices	PC/LAN		✓	1	PC				
UEECS0022	Install and configure a client computer operating system				1	PC				
UEECS0029	Set up and configure basic local area network			✓		PC				

[3] **RS0005 Level crossings**
ARTC requires performance of 3 WPAs for *Install and maintain active level crossing equipment*.

[4] **RS0009 Points**
Must complete 1 off-rail and 1 on-rail assessment