



Australian Government

RIIEGS301E Operate and maintain instruments and field equipment

Release: 1

RIIEGS301E Operate and maintain instruments and field equipment

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to operate and maintain instruments and field equipment in the resources and infrastructure industries.

It applies to those working in supervisory and technical specialist roles. They generally work under minimal supervision to undertake a broad range of skilled applications in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

Licensing, legislative and certification requirements may apply to this unit and can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for use of instruments and field equipment	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to operate and maintain instruments and field equipment 1.3 Communicate verbally and in writing with relevant personnel using approved communication methods according to workplace procedures 1.4 Select and wear personal protective equipment appropriate for work activities 1.5 Select appropriate type of plant and equipment for work activities 1.6 Perform equipment prestart checks according to manufacturer specifications 1.7 Identify and address potential risks, hazards and

ELEMENT	PERFORMANCE CRITERIA
	environmental issues, and implement control measures according to workplace procedures 1.8 Obtain and interpret emergency procedures, and be prepared for emergency situations
2. Test instruments and field equipment	2.1 Perform safety checks according to workplace procedures 2.2 Identify potential faults in instruments and field equipment 2.3 Label and report damaged or unsafe instruments and field equipment and remove from service according to workplace procedures 2.4 Ensure operational logbooks are up dated according to workplace procedures
3. Calibrate instruments/field equipment	3.1 Closely follow calibration schedules 3.2 Label out calibration instruments and equipment and advise relevant personnel of operatives promptly according to workplace procedures 3.3 Identify causes of incorrect calibration according to workplace procedures 3.4 Perform new base calibration according to workplace procedures 3.5 Recommission instrument and equipment according to workplace procedures 3.6 Prepare compliance and calibration reports as required
4. Operate instruments/field equipment	4.1 Optimise instrument and equipment settings for the particular measurement or analysis 4.2 Perform measurements within the given field and technical constraints 4.3 Assess data against quality control information, known standards and references for accuracy and precision 4.4 Repeat measurements where non-standard results are obtained
5. Maintain instruments and field equipment	5.1 Clean and maintain the plant and equipment, inspect to ensure serviceability and rectify or report any faults or issues to relevant personnel 5.2 Perform minor repairs within scope of own job role 5.3 Replace defective parts and make adjustments according to manufacturer specifications 5.4 Seek help from relevant personnel where difficulties are encountered 5.5 Process maintenance and calibration records according

ELEMENT	PERFORMANCE CRITERIA
	to workplace procedures
6. Commission new instruments and equipment	6.1 Arrange commissioning procedures with manufacturer agent, when required 6.2 Unpack, check and assemble instruments and equipment according to manufacturer warranty requirements 6.3 Calibrate instrument and equipment to meet manufacturer specifications 6.4 Check instrument and equipment performance against manufacturer specifications 6.5 Provide operating instructions available to relevant personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	Identifies and interprets information from workplace procedures, documentation and regulations
Self-management	Monitors and minimises own exposure to worksite risks and hazards during activities

Unit Mapping Information

Supersedes and is equivalent to RIIEGS301D Operate and maintain instruments and field equipment.

Links

Companion Volume implementation guides is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIEGS301E Operate and maintain instruments and field equipment

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- operate and maintain instruments and field equipment on at least two occasions, including:
 - performing start up and safety checks
 - calibrating instruments and field equipment
 - operating instruments and field equipment to perform required measurements
 - performing preventative maintenance and minor repairs
 - identifying instrument and equipment faults
 - selecting and using relevant tools and equipment
 - using calibration and test equipment
 - applying fault finding procedures
 - commissioning new instruments and equipment
 - updating maintenance and calibration records, and operational logbooks.

During the above, the candidate must:

- locate and apply relevant documentation, policies and procedures and confirm that the work activity is compliant
- implement the requirements, procedures and techniques for operating and maintaining instruments and field equipment
- work effectively with others to operate and maintain instruments and field equipment in a way that meets all required outcomes
- communicate clearly and concisely with others to receive and clarify work instructions and to determine coordination requirements prior to commencing and during work activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key policies, procedures and documentation required to operate and maintain instruments and field equipment, including:
 - manufacturer calibration procedures
 - manufacturer operating requirements
- principles and techniques for applying instrument and equipment test methods
- principles and techniques for identifying relevant hazards and emergencies
- techniques for coordinating and communicating job activities with others.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment related to operating and maintaining instruments and field equipment
 - relevant documentation
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge

- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

