



Australian Government

RIIEGS301D Operate and maintain instruments and field equipment

Release: 2

RIIEGS301D Operate and maintain instruments and field equipment

Modification History

Release	Comment
1	This unit replaces RIIEGS301A Operate and maintain instruments and field equipment
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to operate and maintain instruments and field equipment in Metalliferous mining.

This unit is appropriate for those working in operational roles. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and Industry sectors. Relevant information must be sourced prior to application of the unit.

Unit Sector

Metalliferous mining

Elements and Performance Criteria

1. Plan and prepare for use of instruments and field equipment	1.1. Access, interpret and apply operate and maintain instruments and field equipment documentation and ensure the work activity is compliant 1.2. Obtain, read, interpret, clarify and confirm work requirements 1.3. Communicate verbally and in writing with other personnel using approved communication methods 1.4. Select and wear personal protective equipment appropriate for work activities 1.5. Select appropriate type of auxiliary equipment for work activities
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	1.6. Perform equipment pre-start checks to ensure equipment is ready for operation 1.7. Identify and address potential risks, hazards and environmental issues, and implement control measures 1.8. Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency
2. Test instrument/field equipment	2.1. Perform safety checks 2.2. Identify potential faults and/or malfunctions of instruments/field equipment 2.3. Label and report damaged or unsafe instruments/field equipment and remove from service 2.4. Ensure operational log books are up dated
3. Calibrate instruments/field equipment	3.1. Closely follow calibration schedules 3.2. Label out calibration instruments/equipment and advise other operatives promptly 3.3. Identify cause/s of incorrect calibration 3.4. Perform new base calibration 3.5. Recommission instrument/equipment 3.6. Prepare compliance and calibration report as required
4. Operate instruments/field equipment	4.1. Optimise instrument/equipment settings for the particular measurement or analysis 4.2. Perform measurements with the optimum precision given field and technical constraints 4.3. Use time and materials efficiently and perform measurements in priority order 4.4. Assess data against quality control information, known standards and references for accuracy and precision 4.5. Repeat measurements where non-standard results are obtained
5. Maintain instruments/field equipment	5.1. Perform preventative maintenance 5.2. Identify and report equipment wear and faults 5.3. Perform minor repairs within limits of authorisation 5.4. Replace defective parts and makes adjustments 5.5. Seek expert help where difficulties are encountered 5.6. Update maintenance and calibration records
6. Identify faults	6.1. Identify and clarify the nature of the fault

in instruments/field equipment	6.2. Determine and rank likely causes of fault 6.3. Apply simple checks and tests 6.4. Obtain suitable tools and equipment to test faults 6.5. Apply fault finding methodology
7. Commission new instruments and equipment	7.1. Arrange commissioning procedures with manufacturer's agent as required 7.2. Unpack, check and assemble instruments/equipment according to manufacturer's warranty requirements 7.3. Calibrate instrument/equipment to meet manufacturer's specifications 7.4. Check instrument/equipment performance against specifications prior to acceptance of item 7.5. Prepare and make operating instructions available

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIIEGS301A Operate and maintain instruments and field equipment

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for RIIEGS301D Operate and maintain instruments and field equipment

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Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of operating and maintaining instruments and field equipment including:
 - selecting and using relevant tools and equipment
 - using calibration equipment
 - using test equipment
 - applying fault finding procedures
- demonstrates completion of operating and maintaining instruments and field equipment that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion 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
 - commissioning new instruments and equipment
 - updating maintenance and calibration records, and operational log books

Knowledge Evidence

The candidate must demonstrate knowledge of operating and maintaining instruments and field equipment through:

- applying instrument and equipment test methods
- using and making available manufacturer's operating requirements for instruments and equipment
- applying manufacturer's calibration procedures

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil	3-6	5 Years

Construction		
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.	

*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 frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

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