



Australian Government

RIIWSV301F Conduct and maintain well servicing derrick operations

Release: 1

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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 conduct and maintain well servicing derrick operations in drilling. It prepares individuals to handle tubulars and equipment, prepare hole for circulation with air/fluid, participate in head-up and pressure tests and clean out well bore/drill plugs.

This unit applies to those working in an operational role. They generally perform tasks involving a broad range of skilled applications in a wide variety of contexts, which may involve some discretion and judgement in selecting equipment, services and contingency measures.

Licensing, legislative and certification requirements that may apply to this unit 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 derrick operations	1.1 Obtain, confirm and apply work instructions 1.2 Access, interpret and apply compliance documentation and confirm work activity is compliant 1.3 Clarify difficulties in carrying out instructions with the relevant personnel 1.4 Identify and minimise environmental issues and potential hazards, and assess and address risks within scope of own role and according to workplace procedures 1.5 Confirm personnel coordination requirements at the site are met prior to commencement of work activities 1.6 Confirm availability and status of necessary permits to work

ELEMENT	PERFORMANCE CRITERIA
	1.7 Confirm availability of necessary third party utilities according to operational requirements 1.8 Confirm availability of required quantities and type of consumables against operational requirements 1.9 Select and use wear personal protective equipment and wear protective clothing required for work activities 1.10 Identify errors, omissions and shortages and take required remedial action within functional responsibility 1.11 Inform driller of status of derrick operating equipment
2. Handle tubulars and equipment	2.1 Position tubulars and equipment according to operational requirements 2.2 Assist in making and breaking connections where required 2.3 Identify faults and defects and take required remedial action within functional responsibility 2.4 Handle equipment using safe lifting and handling techniques
3. Prepare hole for circulation with air/fluid	3.1 Complete pre-raise and pre-circulation checks and establish required circulation 3.2 Perform pre-spud safety checks 3.3 Check all connections and valves to manifold and well head are in proper position as required 3.4 Maintain drilling fluid volume and properties according to work requirements 3.5 Inform driller of current operating conditions 3.6 Maintain written inventory of circulation system and parts as required 3.7 Check and record mud and fluid additives as required 3.8 Follow all operator instructions
4. Participate in head-up and pressure test	4.1 Prepare for necessary equipment changes 4.2 Prepare drilling fluid according to work requirements 4.3 Assist in nipping-up 4.4 Assist driller in blow out prevention testing
5. Clean out well bore/drill plugs	5.1 Consult driller and follow instructions 5.2 Maintain housekeeping and safe practices during drilling according to workplace procedures and safety requirements 5.3 Assist in completion or abandonment of well
6. Prepare to commence drilling/circulating operations	6.1 Align equipment on active systems for drilling/circulating 6.2 Turn on and check all required machinery 6.3 Watch for return sand report changes 6.4 Measure and log pit, tank and fluid levels regularly as required

ELEMENT	PERFORMANCE CRITERIA
7. Assist driller on drill floor	7.1 Assist in handling and nipping-up of blow out prevention stack 7.2 Carry out role of assistant to driller when on drill floor
8. Shutdown rig and rig out	8.1 Wash and drain circulation system 8.2 Repair equipment according to manufacturer specifications and work requirements 8.3 Store equipment according to safety requirements and workplace procedures

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 critical information from the organisational plan, work programs and lease details
Writing	Produces and completes workplace reports, including organisational procedures and using appropriate vocabulary, grammatical structures and conventions
Oral communication	Uses verbal communication techniques to communicate with others

Unit Mapping Information

Supersedes and is equivalent to RIIWSV301E Conduct and maintain well servicing derrick operation.

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 RIIWSV301F Conduct and maintain well servicing derrick operations

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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:

- conduct and maintain well servicing derrick operations on at least two occasions, including:
 - loading rod racks, strap and number tubulars
 - cleaning out well bore/drill plugs
 - converting metric and imperial measurements
 - applying numeracy skills to calculate:
 - fractions, decimals, percentages
 - volume
 - quantities
 - weight
 - length
 - density/specific gravity
 - temperature
 - ph (power of hydrogen)
 - basic geometry
 - performing shutdown and rig out procedures.

During the above, the candidate must:

- locate and apply required documentation, policies and procedures
- work with others to conduct and maintain well servicing derrick operations that meet required outcomes, including:
 - complying with written and verbal reporting requirements and procedures
 - communicating with others to receive and clarify work instructions
 - communicating with others to meet coordination requirements throughout work activities

- maintain housekeeping processes during drilling.

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 legislation required for conducting and maintaining well servicing derrick operations
- key policies, procedures and requirements for conducting and maintaining well servicing derrick operations, including those for:
 - equipment malfunction or failure
 - supervising and training others to provided standards
 - environmental and safety issues
 - routine maintenance of derrick
 - preparing for drilling operations
 - preparing for the tripping of tubulars
 - cleaning circulation system and operating well
 - equipment and rig maintenance
 - waste disposal
 - converting between metric and imperial
 - milling operations
 - housekeeping
- assistance required by driller in handling and nipping-up of blow out prevention stack
- types and functions of blow out prevention equipment
- basic geometry relevant to conducting and maintaining well servicing derrick operations including interpreting depth, direction and azimuth and dip of hole
- well servicing team roles, objectives and management structure.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to conduct and maintain well servicing derrick operations
- 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	

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
	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 RII 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.

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