



Australian Government

RIIOGD301D Conduct and maintain derrick operations

Release: 2

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Modification History

Release	Comment
1	This unit replaces RIIOGD301A Conduct and maintain derrick operations
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 apply conduct and maintain derrick operations in Drilling.

This unit is appropriate for those working in operational roles.

Licensing, legislative, regulatory and certification requirements that may 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

Drilling

Elements and Performance Criteria

1. Plan and prepare for derrick operations	1.1 Access, interpret and apply derrick operations documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Identify and address potential risks, hazards and environmental issues and implement control measures 1.4 Select the personal protective equipment appropriate for the work activity 1.5 Clarify difficulties in carrying out the instructions with the relevant personnel 1.6 Resolve coordination requirements with others at the site prior to commencing, during and on completion of the work activities and ensure briefings/handover details are read/passed on
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	1.7 Confirm availability and status of necessary permits to work 1.8 Confirm availability of necessary third party utilities 1.9 Confirm availability of required quantities and type of consumables against operational requirements 1.10 Identify errors, omissions and shortages and take appropriate remedial action within functional responsibility 1.11 Inform driller of current operating conditions
2. Handle tubulars and equipment	2.1 Position tubulars and equipment according to operational requirements 2.2 Assist in making and breaking connections where appropriate 2.3 Identify faults and defects accurately and take appropriate remedial action within functional responsibility 2.4 Handle equipment using safe lifting and handling techniques
3. Inspect and perform routine maintenance of derrick and connected equipment	3.1 Inspect safety lines, ropes, air hoists, monkey board, sheaves, crown block, derrick bolts, pins and welds, and all other lines and equipment in or attached to the derrick 3.2 Lubricate air hoists, sheaves, crown block fast line guide 3.3 Replace defective parts and effect minor repairs 3.4 Perform jobs or tasks such as hanging back of travelling block, replacement of sheaves] 3.5 Complete pre-raise and pre-circulation checks in accordance with statutory and company procedures
4. Prepare for and drill surface hole	4.1 Establish circulation 4.2 Perform pre-spud safety checks 4.3 Check all connections and valves to floor are in proper position 4.4 Maintain drilling fluid volume and properties 4.5 Inform driller of current operating conditions 4.6 Maintain written inventory of circulation system/parts 4.7 Check and record in writing fluid additives 4.8 Check availability of derrick casing equipment 4.9 Follow all operators' instructions
5. Participate in head-up and pressure test	5.1 Preparations for necessary equipment changes 5.2 Prepare drilling fluid 5.3 Assist in nipping-up

	5.4 Assist driller in BOP testing
6. Drill main hole	6.1 Consult driller and fluid engineer's program, and follow instructions 6.2 Maintain housekeeping and safe practices during drilling 6.3 Assist in completion or abandonment of well as required 6.4 Convert between metric and imperial measurements 6.5 Record in writing reading of depth, direction and azimuth accurately and legibly
7. Prepare to commence drilling operations	7.1 Align equipment on active systems for drilling 7.2 Turn on and check all appropriate machinery 7.3 Watch for returns if riser installed 7.4 Measure and log in writing pit levels regularly
8. Assist in running and cementing of casing	8.1 Follow instructions when running casing 8.2 Align valves and fluid system for casing fill-up line 8.3 Rig up, function test, lubricate and operate casing stabbing board 8.4 Attach and secure safety lines to all circulating lines 8.5 Circulate fluid in accordance with instructions 8.6 Mix chemicals for cementers and align pumps to cementing unit 8.7 Weigh cement as it is being mixed 8.8 Align fluid system for displacement of cement 8.9 Monitor returns and pits to assess circulation and returns
9. Assist Driller on drill floor	9.1 Assist in handling and nipping-up of BOP stack 9.2 Carry out role of assistant to driller when on drill floor
10. Shutdown rig and rig out	10.1 Wash and drain circulation system 10.2 Repair equipment 10.3 Store equipment safely

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

RIIOGD301A Conduct and maintain derrick operations

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 RIIOGD301D Conduct and maintain derrick operations

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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 legislation, documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of derrick operations and maintenance including:
 - complying with work instructions
 - using correct techniques for handling tubulars and equipment
 - performing conversion between imperial and metric measurements
 - demonstrates a range of written and verbal communications skills, including use of:
 - 2-way radio
 - intercom
 - telephone
 - written instruction
 - oral instruction
 - hand signals
 - telephone
 - public address system
 - prepare and complete clear and legibly written reports
- works effectively with others to undertake and complete the conduct and maintenance of derrick operations that meets all of the required outcomes including:
 - coordinating activities with others
 - reading and passing on handover notes and details

- communicating clearly and concisely to and with the driller
- assisting the driller in BOP testing
- communicate clearly and concisely with fluid engineer and operator's representative and inform driller of problems if they arise
- demonstrates completion of the conduction and maintenance of derrick operations that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - handles tubular and equipment's including makes and breaks connections
 - inspecting all lines, equipment and attachments to the derrick
 - prepares fluids, checks fluid, aligns fluid, monitors and records fluid additives
 - correctly prepares for drilling
 - correctly drills surface hole
 - participating in head-up and pressure testing
 - assists in running and cementing casings
 - performs activity for rig shutdown and rig out

Knowledge Evidence

The candidate must demonstrate knowledge of the following in conduct and maintain derrick operations through:

- company and statutory safety guidelines, procedures and practices
- safe operating procedures when operating equipment
- recognise and report equipment malfunction or failure
- supervising and training subordinates to provided standards
- working as directed by driller timely and efficiently
- conducting routine maintenance of derrick
- prepares for drilling operations
- prepares for the tripping of tubulars
- assisting in running and cementing of casing
- assisting driller in handling and nipple up of bop stack
- acting as assistant to driller on drill floor
- keeping circulation system clean and operating well
- looking after equipment and dispose of waste properly
- following instructions conscientiously
- being aware of position of crew members on floor during handling of drillstem
- complying with safe operating procedures when operating equipment
- performing conversion between metric and imperial measurements
- performing rig maintenance
- carrying out normal drilling operations
- carrying out non-routine drilling operations

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 Construction	3-6	5 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.	

*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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